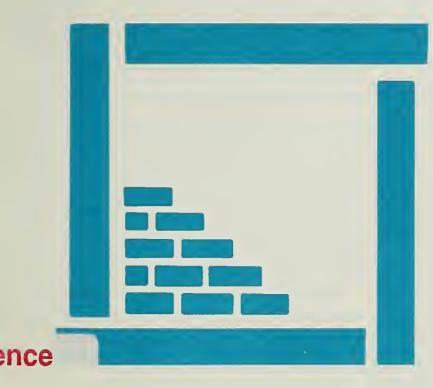
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CC87-I-11

**INDUSTRY SERIES** 

## Painting and Paper Hanging Special Trade Contractors

Industry 1721



this room

### **ACKNOWLEDGMENTS**

Many persons participated in the various activities of the 1987 Census of Construction Industries.

The overall planning and review of the census operations were performed by the staff of the Office of the Assistant Director for Economic and Agriculture Censuses.

This report was prepared in the Construction Statistics Division. Barry A. Rappaport, Assistant Division Chief for Industry Surveys, was responsible for the overall planning, management, and coordination of the census of construction industries. Planning and implementation were under the direction of A. William Visnansky, Chief, Census Operations Branch, with primary staff assistance by Juliana Van Berkum, Barbara J. Hadden, Edward R. Glover, Susan L. Hostetter, Shirley M. Baker, and Carolyn J. Stone. Under the direction of Jesse Pollock, Edward K. Ricketts and Dennis K. Duke developed the sampling plans and variance and estimation specifications.

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If you have any questions concerning the statistics in this report, call (301) 763-7546.

# 1987

# Census of Construction Industries

CC87-I-11

**INDUSTRY SERIES** 

### Painting and Paper Hanging Special Trade Contractors

Industry 1721

Issued January 1990



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### PURPOSE AND USES OF THE ECONOMIC CENSUSES

The economic censuses are the major source of facts about the structure and functioning of the Nation's economy. They provide essential information for government, business, industry, and the general public.

Economic censuses furnish an important part of the framework for such composite measures as the gross national product, input-output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions.

Policy-making agencies of the Federal Government use the data, especially in monitoring economic activity and providing assistance to business.

State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.

Trade associations study trends in their own and competing industries, and keep their members informed of market changes.

Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

#### **AUTHORITY AND SCOPE**

Title 13 of the United States Code (sections 131, 191, and 224) directs the Census Bureau to take the economic censuses every 5 years, covering years ending in 2 and 7. The 1987 Economic Censuses consist of the-

Census of Retail Trade Census of Wholesale Trade Census of Service Industries Census of Transportation Census of Manufactures Census of Mineral Industries Census of Construction Industries

Special programs also cover enterprise statistics and minority-owned and women-owned businesses. (The 1987 Census of Agriculture and 1987 Census of Governments are conducted separately.) The next economic censuses are scheduled to be taken in 1993 covering the year 1992.

### **AVAILABILITY OF THE DATA**

The results of each of the economic censuses are available in printed reports, for sale by the U.S. Government Printing Office, and on microfiche, computer tape, compact discs with read-only memory, and flexible diskettes, for sale by the Census Bureau. Order forms for all types of products are available on request from Customer Services, Census Bureau, Washington, DC 20233. A more complete description of publications being issued from this census is on the inside back cover of this document.

Census facts are also widely disseminated by trade associations, business journals, and newspapers. Volumes containing census statistics are available in most major public and college libraries. Finally, State Data Centers in every State and Business and Industry Data Centers in many States also supply economic census statistics.

#### WHAT'S NEW IN 1987

Several changes have taken place for the 1987 censuses. Data will be reported on the basis of the newly revised Standard Industrial Classification (SIC) system with selected reports including "bridge tables," linking the old and new classification systems. A new set of metropolitan

areas has been adopted, and more detailed information will be available for businesses with no paid employees. For additional information on these changes, review the subsequent text.

One important change involves receipts of contractors and builders. Prior to 1987, the Census of Construction Industries collected receipts as the primary measure of construction activity. For 1987, the census collected the "value of construction work done" to better measure actual construction activity done during the year. Differences between the two concepts occur when work is done in one year and payment received either from the prior or in the succeeding year. In addition, receipts do not include work a contractor performs for its own account and use.

### HISTORICAL INFORMATION

The economic censuses have been taken together as an integrated program at 5-year intervals since 1967, and before that for 1963, 1958, and 1954. Prior to that time, the individual censuses were taken separately at varying intervals.

The economic censuses trace their beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for 1840 and subsequent censuses to include mining and some commercial activities. In 1902, Congress established a permanent Census Bureau and directed that a census of manufactures be taken every 5 years. The 1905 manufactures census was the first time a census was taken apart from the regular every-10-year population census.

The first census of business was taken in 1930, covering 1929. Initially it covered retail and wholesale trade, and construction industries, but it was broadened in 1933 to include some of the service trades.

The 1954 economic censuses were the first to be fully integrated—providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. These were the first censuses to be taken by mail, using lists of firms provided by the administrative records of other federal agencies. Since 1963, administrative records have also been used to provide basic statistics as well for very small firms, reducing or eliminating the need to send them census questionnaires. The Enterprise Statistics Program, which publishes combined data from the economic censuses, was made possible with the implementation of the integrated census program in 1954.

The range of industries covered in the economic censuses has continued to expand. The Census of Construction Industries began on a regular basis in 1967, and the scope of service industries was broadened in 1967, 1977, and 1987. The Census of Transportation began in 1963 as a set of surveys covering travel, transportation of commodities, and trucks. New for 1987 are publications reporting on business establishments engaged in several transportation industries, paralleling the data on establishments in

other sectors. This is part of a gradual expansion in coverage of industries previously subjected to government regulation. The Survey of Minority-Owned Business Enterprises was first conducted as a special project in 1969 and was incorporated into the economic censuses in 1972 along with the Survey of Women-Owned Businesses.

Economic censuses have also been taken in Puerto Rico since 1909, in the Virgin Islands and Guam since 1958, and in the Northern Mariana Islands since 1982.

Statistical reports from the 1982 and earlier censuses provide historical figures for the study of long-term time series, and are available in some large libraries. All of the census data published since 1967 are still available for sale on microfiche from the Census Bureau.

### AVAILABILITY OF MORE FREQUENT ECONOMIC DATA

While the censuses provide complete enumerations every 5 years, there are many needs for more frequent data as well. The Census Bureau conducts a number of monthly, quarterly, and annual surveys, the results of which appear in publication series such as Current Construction Reports (building permits, housing starts, and value of new construction put in place), Current Business-Reports (retail and wholesale trade and service industries), the Annual Survey of Manufactures, Current Industrial Reports, and the Quarterly Financial Report. Most of these surveys, while providing more frequent observations, yield less kind-of-business and geographic detail than the censuses. The County Business Patterns program offers annual statistics on the number of establishments, employment, and payroll classified by industry within each county.

### SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1987 Economic Censuses and Related Statistics*. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1987 Economic Censuses*. Contact Customer Services for information on availability.

### CENSUS OF CONSTRUCTION INDUSTRIES—SCOPE AND CLASSIFICATION

The 1987 Census of Construction Industries covers all employer establishments (establishments with payroll) primarily engaged in contract construction, construction on their own account for sale, or in subdividing real property into lots as defined in the 1987 Standard Industrial Classification (SIC) Manual.1 This industrial classification system has been developed by experts on classification in government and private industry under the guidance of the Office of Management and Budget and is in general use among government agencies and among organizations outside the government.

Contract construction—The SIC manual defines construction in three broad types of activity that follow:

- 1. Building construction by general contractors or by operative builders- General building contractors are primarily engaged in the construction of dwellings, office buildings, stores, farm buildings, and other building projects. Operative builders who build on their own account for sale are also included here. However, investment builders who build structures on their own account for rent are classified in Real Estate.
- 2. Heavy construction general contractors—Heavy construction general contractors are primarily engaged in the construction of highways, bridges, pipelines, sewers and water lines, marine construction, power, and petro-chemical plants and other nonbuilding construction projects. Special trade contractors are classified in heavy construction if they are specifically engaged in the following activities: grading for highway and airport runways; guardrail construction; installation of highway signs; asphalt and concrete construction of roads, highways, streets and public sidewalks; trenching, cable laying; conduit construction; underwater rock removal; pipeline wrapping; or land clearing and leveling.
- 3. Construction by other special trade contractors-These contractors include plumbers, painters, carpenters, electricians, brick layers, roofers, etc. For the most part, they perform their work at the site of construction, although they may also have shops where they perform work incidental to the job site.

General contractors in both the building and the heavy construction field usually assume responsibility for an entire construction project, but may subcontract to others all of the actual construction work or those portions of the project requiring special skills or equipment. Special trade contractors may work for general contractors, for other subcontractors, or may work directly for the owner of the property.

In addition to the industries classified in the SIC manual as Construction, this census also includes one industry classified in the Real Estate area, SIC 6552, Land Subdividers and Developers, Except Cemeteries. These establishments are engaged in subdividing real property into lots and in developing it for sale on their own account.

Each establishment receiving a questionnaire was requested to report the percent of total dollar value of business done for each kind-of-business activity engaged in during 1987. This information was used for the computer assignment of appropriate industry classifications. During this work, various tests were also made using other data reported on the questionnaire. The proportion of construction work to total business was checked to verify that the establishment was primarily in construction. Also taken into consideration were the types of structures worked on during the year and the extent of work undertaken for other contractors.

Construction establishments often engage in various construction activities. It is necessary, however, to assign a single industry code to the establishment based on its major activity. Therefore, the statistics shown for an industry reflect not only the primary activity of the establishments in the industry, but also their secondary activities. The industry reports, however, do present data on the extent of secondary activities.

A revised edition of the SIC Manual was issued in 1987. Minor modifications were made to three industries in the construction sector: SIC 1611, Highway and Street Construction Contractors, Except Elevated Highways; SIC 1629, Heavy Construction Contractors, N.E.C; and SIC 1771, Concrete Work Special Trade Contractors. The extent of these modifications are explained in the specific texts for those industries. "Bridge tables" are also included showing selected data tabulated using both the previous classification system and the 1987 revision.

#### **ESTABLISHMENT BASIS OF REPORTING**

The census of construction industries is conducted on an establishment basis. A "construction establishment" is defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. With some exceptions, a relatively permanent office is one which has been established for the management of more than one project or job and which is expected to be maintained on a continuing basis. Such "establishment" activities include, but are not limited to estimating, bidding, purchasing, supervising, and operation of the actual construction work being conducted at one or more construction sites. Separate construction reports were not required for each project or construction site.

Companies with more than one construction establishment were required to submit a separate report for each such establishment operated during all or any part of 1987. The census of construction industries figures represent a summary of records for individual establishments rather than for companies. The census tabulations, therefore, differ from those prepared on a company basis.

<sup>&</sup>lt;sup>1</sup>Standard Industrial Classification Manual: 1987. For sale by Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Stock No. 041-001-00314-2.

If an establishment engaged in construction and one or more distinctly different lines of economic activity (wholesale or retail trade, service, manufacturing, mining, etc.) at the same place of business, it was requested to file a separate report appropriate to each activity, provided that the activity was of substantial size and separate records were maintained or substantially accurate estimates could be prepared.

If a separate establishment report could not be prepared for each activity, then a construction report was requested covering all activities of that establishment providing that the 1987 value of construction work exceeded the gross receipts from each of its other activities.

Construction businesses with no payroll during 1987 (nonemployers) were not required to file census reports. Tabulation of data for these businesses are based on administrative records and are shown only in U.S. summary publications and the geographic area reports series. Refer to the section on "Sample Design" for details. Foreign construction activities were not included in this census.

### SAMPLE DESIGN, ESTIMATION PROCEDURES, AND RELIABILITY OF ESTIMATES

The companies included in the 1987 Census of Construction Industries were identified as part of an operation common to all 1987 Economic Censuses. Construction companies were divided into employers (companies with payroll) and nonemployers (companies without payroll). Statistical information for the employers was obtained in the census by a survey which included all medium size and large employers and a sample of the smaller ones. Census reports were not required from the nonemployers. Statistics on them were obtained from administrative records of other agencies of the Federal Government.

### **Employer Companies**

Developing the sampling frame for employer companies—This operation started with obtaining a list of all construction companies in the active records of the Internal Revenue Service (IRS) which were subject to payment of Federal Insurance Contributions Act taxes. The basic source for this list has been the Internal Revenue Service Business Master File, a comprehensive list of companies engaged in business activities in the United States. The file contains the name, address, and form of ownership of each company and also indicates whether or not the company is subject to the FICA. Each company in this file is assigned a unique employer identification (EI) number which it uses in filing its various reports with the IRS. The Social Security Administration (SSA) maintains a similar list using the same identification numbers, which also contains information on the industrial classification of each company. The Bureau of the Census obtained both of these lists and combined them.

Under special arrangements which safeguarded the confidentiality of the information, the Bureau also obtained administrative records data on payrolls and receipts and added these data to the combined list. The list, thus created from the IRS-SSA information, was a list of employer companies. However, for the 1987 Economic Censuses the basic reporting unit is the "establishment." Therefore, steps were taken to identify the individual establishments of those companies which operate more than one place of business. The information for making this determination was obtained by means of the Company Organization Survey (COS), an annual canvass of all known multiestablishment companies and large single-establishment companies. Thus, the 1987 Economic Census list for singleestablishment employer companies was obtained from the IRS-SSA, but the list of establishments of multiestablishment employer companies was obtained directly from those companies in the COS. Refer to the section on "Establishment Basis for Reporting" for details.

In general, the IRS-SSA list provided sufficient industrial classification data to assign a company to the proper economic census, but there were a number of companies for which this information was inadequate or unavailable. A special form, NC-9923, General Schedule, was mailed to all such companies, requesting information on the nature of the company's activities. From the information reported, the company was given an industrial classification code and assigned to the appropriate economic census. Since construction companies found in this way were identified only after the regular census mailing had taken place, they were treated as a supplement to the basic list.

Selecting the employer sample—The sample was designed to provide reliable State and metropolitan area estimates for each construction industry. It consisted of all construction establishments in multiestablishment companies, all single-establishment companies with estimated total employment of 20 employees or more, and a probability sample of single-establishment companies with estimated employment of fewer than 20 employees.

Supplementing the sample were construction companies identified from the NC-9923, General Schedule. Also affecting the sample were the misclassified companies; i.e., companies included in the samples of other trade areas which reported they were construction companies and companies originally classified in construction which reported they were not construction companies.

Of the 533,000 single-establishment employer companies initially classified as construction companies, 147,000 were included in the sample. All of the 13,000 establishments of multiestablishment companies were included in the sample. There was a net increase in the sample of 60,000 establishments resulting from establishments originally unclassified (receiving the NC-9923) or misclassified.

The probability sample of the smaller single-establishment companies was a stratified random sample. Strata were formed from all establishments with the same initial fourdigit SIC code, in the same State, in the same metropolitan

area or in the balance of the State, and in the same size class based on estimated total employment. If the fourdigit SIC code for an establishment was incomplete, the establishment was placed in a stratum for miscellaneous companies. Because they were small, all companies were included in the sample for the following three industries: SIC 1622, Bridge, Tunnel, and Elevated Highway Construction Contractors; SIC 1795, Wrecking and Demolition Work Special Trade Contractors; and SIC 1796, Installation or Erection of Building Equipment Special Trade Contractors.

Estimation procedures for 1987 and 1982 data-Since all larger employer companies and some smaller ones were included in the census, sample estimation was required only for the universe of companies not selected with certainty. The published statistics are the totals of the estimates for the sampled companies and the aggregates for the certainty companies. All estimates for 1987 and 1982 published here are simple unbiased estimates of the form:

$$x'_{c} = \sum_{i=1}^{n} x_{i} / p_{i}$$

where: x'c is the simple unbiased estimate of a characteristic for a publication cell.

x, is the reported value of a characteristic for an individual establishment in the publication cell.

is the selection probability of that firm.

n is the number of firms in the sample for the

Data for certain characteristics were reported as a percentage of the dollar value of business done. Before this formula was applied to those characteristics, it was necessary to convert the reported percentages into dollars.

Reliability of employer statistics-Since the estimates for employer establishments in these reports are based on the samples, they are subject to sampling variability and may be expected to differ from results which would have been obtained if a complete census had been taken using the same forms and procedures. The sampling errors shown in the tables were estimated directly from the sample reports, using methods appropriate for the sample design and form of estimation used.

The relative standard error is a measure of sampling variability, i.e., the variation that might occur by chance because only a sample of the population is surveyed. As calculated for this report, the relative standard error also partially reflects the effect of random errors of response and processing, but it does not take into account the effect of any consistent biases due to those types of errors. The chances are about 68 out of 100 that an estimate from the

sample would differ from a complete census by less than the relative standard error. The chances are about 95 out of 100 that the difference is less than twice the relative standard error and about 99 out of 100 that it is less than 2-1/2 times the relative standard error. Individual estimates with large relative standard errors have been shown in the published tables. Any such estimates should be used with caution. The very large relative standard errors generally occur for the smaller estimates.

Relative standard errors have been calculated for all of the published statistics, although they are shown for each statistic only in the tables presenting detailed statistics. Other tables show relative standard errors only for certain characteristics because of lack of space.

As calculated for this report, the relative standard error measures certain nonsampling errors, but does not measure any systematic biases in the data. Bias is the difference, averaged over all possible samples with the same size and design, between the estimates and the true value being estimated. Nonsampling errors can be attributed to many sources: inability to obtain information about all cases in the sample; definitional difficulties; differences in interpretation of questions; inability or unwillingness of respondents to provide correct information; and errors made in processing the data. Although no direct measurements of the biases have been obtained, it is believed that most of the important response and operational errors were detected in the course of reviewing the data for reasonableness and consistency.

A potential source of bias is in the imputation for those establishments that have not responded by the time of final publication. Data were estimated for establishments that did not report by that date, although selected establishments were contacted again to obtain as much information on the telephone as possible. Some publication cells in which more than 40 percent of the data were not reported have been suppressed.

### **Nonemployer Companies**

As described earlier, the information derived from the business income tax returns of all companies was matched to the census employer file on the basis of common identification numbers. Those business income tax returns which could not be matched, were further classified on the basis of several characteristics. Returns with characteristics consistent with companies without payroll were treated as nonemployers. The nonemployer construction companies were not required to file census reports.

For "number of establishments," each separate income tax return was assumed to be an establishment. "All business receipts" was based on receipts information reported on the tax return.

Since no sampling was involved in the nonemployer establishments, the statistics for nonemployers are not subject to sampling variability. However, these data are subject to an unknown amount of reporting and processing errors which could not be detected by the Census Bureau.

#### **CENSUS REPORT FORMS**

Information for the 1987 Census of Construction Industries was obtained from employer establishments primarily through the use of twenty-four questionnaires, determined by industry classification and size. Standard forms and short forms were developed for each of the following SIC groups: 15, 16, 171, 172, 173, 174, 175, 176, 177, 178, and 179 and for the establishments classified in SIC 6552. Establishments with 50 or more employees all received the standard form. A sub-sample of establishments with fewer than 50 employees received short forms instead of the standard forms. The short forms covered only major items and omitted some of the detail found in the longer forms.

In reviewing and developing the questionnaires, comments and recommendations were elicited from construction trade associations and appropriate advisory groups. The Bureau surveyed several thousand firms representing all economic activities to gain insight into the way companies maintain records and to see whether new information could be collected.

### **DATA PROCESSING**

The 1987 census report forms were mailed out in December 1987. They were mailed from and returned to the Census Bureau's Data Preparation Division in Jeffersonville, Ind., where routine editing and coding of the report forms were also accomplished. Collection of these report forms was essentially completed in July 1988.

The returned reports underwent extensive processing. A preliminary edit done at the time of data entry identified obviously deficient reports and reports needing clarification. When necessary, these problems were resolved by further contact with the respondents. Next, the data were transmitted to Census Bureau headquarters near Washington, DC.

Data records, then, underwent a detailed computer review and analysis. The records containing significant problems were referred for further analytical review and, if necessary, contacts were made with the respondents. The computer performed most classification coding (such as industry coding, geographic coding, and size coding), and imputation for missing items or for reports not received in time for tabulation. The imputation was performed on an industry (or industry group)-State (or geographic group) basis using all available response and administrative data.

The data records were then tabulated on an industry basis. Industry totals were subjected to analytical review, and selected statistics were prepared for the preliminary reports. Corrections resulting from this review were made to the computer records and final tabulations were produced.

The review of a preliminary report for an industry often uncovered the need for corrections or revisions to the data for another industry for which a preliminary report had already been published. The final reports incorporate all

revisions and corrections made during the review of the preliminary reports and contain considerable more data than were published in those reports.

### GEOGRAPHIC CLASSIFICATION

Information for the 1987 Census of Construction Industries' final industry report series is classified on the basis of two types of geographic distributions: (1) physical location of the establishment, and (2) location of construction work. A separate code was assigned on each basis allowing us to present data by both physical locations of the establishment and location of construction work.

The geographic area reports series presents similar data by industry for each State (physical location of the establishment) and for selected MSA's, CMSA's and PMSA's.

### **DUPLICATION IN VALUE OF CONSTRUCTION WORK**

The aggregate of value of construction work reported by all construction establishments in each of the several industry, geographic area, or other groupings in this census, contains varying amounts of duplication, since the construction work of one firm may be subcontracted to other construction firms and also be included in the subcontractors' value of construction work. To avoid this duplication, a "net" value of construction work figure has been derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work.

Duplication in value of business between other construction and nonconstruction industries, results from the use of products of these other industries as input materials by construction establishments. "Value added," avoids this duplication and is, for most purposes, the best measure for comparing the relative economic importance of industries or areas. "Value added," is defined in the 1987 Census of Construction Industries as equal to dollar value of business done less costs for construction work subcontracted to others and payments for materials, components, supplies, and fuels. However, for SIC 6552 and SIC 1531 where land receipts are significant, land receipts are also subtracted from dollar value of business done.

### SPECIAL TABULATIONS

Special tabulations of data collected in the 1987 Census of Construction Industries may be obtained on computer tape or in tabular form. The data will be in summary form and subject to the same rules prohibiting disclosure of confidential information (including name, address, kind of business, or other data for individual business establishments or companies) as are the regular publications.

Special tabulations are prepared on a cost basis. A request for a cost estimate, as well as exact and detailed specifications of the type and format of the data to be provided, should be directed to the Chief, Construction Statistics Division, Bureau of the Census, Washington, DC, 20233.

To discuss a special tabulation before submitting specifications, call 301-763-7546.

### **COMPARABILITY OF CENSUS OF CONSTRUCTION INDUSTRIES DATA WITH** OTHER DATA

Data contained in the reports of the 1987 Census of Construction Industries are not the same as the data published in the Census Bureau's monthly Construction Reports, Series C30, Value of New Construction Put in Place. The main difference is that the C30 series covers all new construction put in place without regard to who is performing the construction activity, whereas the construction census figures cover both new construction and maintenance and repair work done by establishments classified in the construction industry. Significant amounts of construction are done by establishments classified outside of construction (in real estate, manufacturing, utilities and communications, for example), both as "force account" construction and construction done for others. In addition, the value in place series includes constructionrelated expenses such as architectural and engineering costs and the costs of materials supplied by owners which are normally not reflected in the Census of Construction.

Data contained in the reports of the census of construction industries may also differ from industry data in "Employment and Earnings Statistics," published by the Bureau of Labor Statistics, and "Statistics of Income," published by the Internal Revenue Service. These differences arise from varying definitions of scope, coverage, timing, classification, and methodology.

#### ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in this publication:

- Sampling error exceeds 40 percent.
- Represents the sum of all employees during pay periods including 12th of March, May, August, and November, divided by 4.
- Represents zero.
- Represents value of construction work less † costs for construction work subcontracted to others. (See Duplication in Value of Construction Work.)
- Represents dollar value of business done less **††** costs for construction work subcontracted to others, and costs for materials, components, supplies, and fuels. In SIC's 1531 and 6552, land receipts are also subtracted from dollar value of business done. (See Duplication in Value of Construction Work.)
- Withheld to avoid disclosing data for individual (D) companies; data are included in higher level totals.
- Not available. (NA)
- Withheld because estimate did not meet pub-(S) lication standards on the basis of either the response rate, associated relative standard error, or a consistency review.
- Greater than zero but less than 1 percent. (W)
- (X) Not applicable.
- n.s.k. Not specified by kind.

# Users' Guide for Locating Statistics in This Report by Table Number

Бу	Table	Italina	-			
Statistics	For U.S.	By State	By employment size	By size class of dollar value of business done	By type, class, ownership, kind of business, and location of construction <sup>1</sup>	By specialization in types of constuction
Assets and depreciation (gross book value):  Beginning of year—buildings, machinery and equipment.  End of year—total End of year—buildings, machinery and equipment.  Depreciation charges during year— buildings, machinery and equipment.	3 1, 3 3	1	5	6		
Capital expenditures: Total capital expenditures New buildings—machinery and equipment Used buildings—machinery and equipment	1, 3 3 3	1	5	6		
Communication services, costs for	2					
Employees: All employees—average number Construction workers—average number Other employees—average number	1, 2 1, 2, 9 2	1 1, 9	5	6		8
Employer costs for fringe benefits—legally required and voluntary expenditures	2					
Establishments—number in business during year	1, 2, 4, 9	1, 9	5	6		8
Hours—construction workers: TotalQuarterly	1, 2, 9 2, 9	1, 9 9	5	6		
Inventories	4					
Materials, components, supplies, and fuels—costs for	1, 2	1	5	6		
Payroll: First quarter, all employees. Annual: All employees. Construction workers Other employees.	2 1, 2 1, 2 2	1	5	6		8
Power, fuels, and lubricants—costs for	2					
Proprietors and working partners	2					
Ratios, State	13	13				
Value and receipts:  Dollar value of business done, total  Value of construction work, total  For work subscontracted in from others.  Other business receipts and land receipts <sup>2</sup> Net value of construction work.	2 1, 2, 4 2 2 1, 2	1	5 5	6 6	11 2, 7, 10	8
Value added	1, 2	1	5	6		8
Rental costs: Total For machinery and equipment For buildings	1, 2 2 2	1	5	6		
Repairs to buildings and other structures	2					
Repairs to machinery and equipment	2					
Selected industry ratios	12					
Subcontract work to others, costs for	1, 2	1	5	6		8

Note: Data for 1982 and earlier years are also available in some of these tables.

<sup>&</sup>lt;sup>1</sup>Type—buildings, roads, etc. Class—new construction; additions, alterations, or reconstruction; or maintenance and repair work. Ownership—private or government owned.

<sup>2</sup>Land receipts are shown separately for SIC's 1531 and 6552 only.

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### Painting and Paper Hanging **Special Trade Contractors**

[Page numbers listed here omit the prefix that appears as part of the number of each page] Page \_\_\_\_\_ Ш Users' Guide for Locating Statistics in This Report by Table Number X Summary of Findings\_\_\_\_\_ **FIGURES** Value of Construction Work by Type of Construction \_\_\_\_\_\_ Selected Costs Per Dollar Value of Business Done **TABLES** Statistics for Establishments With Payroll General Statistics by State: 1987 and 1982 4 6 7 8 8 9 10 3. Value of Inventories: 1987 and 1986\_\_\_\_\_\_ Selected Statistics by Employment Size Class: 1987 and 1982

Selected Statistics by Size Class of the Dollar Value of Business Done: 1987 and 1982

Value of Construction Work by Type of Construction: 1987 and 1982

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Publication Program \_\_\_\_\_ Inside back cover

### SUMMARY OF FINDINGS

Establishments classified in this industry are primarily engaged in interior and exterior painting (except roofs), and paper hanging. For additional examples, refer to the 1987 Standard Industrial Classification (SIC) Manual published by the Office of Management and Budget, Executive Office of the President.

During 1987, the establishments with paid employees classified in this industry accounted for \$8.03 billion in total dollar value of business. Of this amount, \$7.95 billion were for the value of construction work. These establishments paid out \$1.6 billion for materials, components, and supplies and \$508 million for construction work subcontracted to others. Costs for selected power, fuels, and lubricants for this industry were \$162 million. Value added for 1987 was \$5.7 billion.

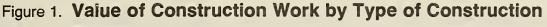
There were 29,867 establishments with total employment averaging 169,968 during the year. Total payroll for 1987 was \$3.0 billion. Total hours worked by construction workers during the year were 224 million hours.

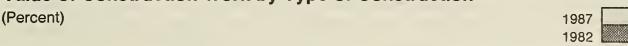
Larger establishments with 20 employees or more, while representing only 5 percent of the total number of employer establishments in this industry accounted for 41 percent of all business done.

A "construction establishment" is defined as a relatively permanent office, or other place of business, where the usual business activities related to construction are conducted. A separate census report was required from each sampled establishment covering domestic operations. Separate reports were not, however, required for each project or construction site.

In 1987, the value of construction work was collected to better measure actual construction activity done during the year. Construction receipts, as reported in earlier censuses, may have included the value of work done before or after the calendar year and may have excluded the value of work in progress during the calendar year. Receipts may have also excluded work done by builders engaged in construction for sale on their own account or for their own use. All dollar values are shown in current dollars for the years specified and have not been adjusted for inflation.

The data in this report are estimated from a sample survey and are subject to sampling variability as well as errors of response and nonreporting. The relative standard error shown in the tables is a measure of sampling variability. Descriptions of the sampling, estimating procedures, and data reliability are included in the Introduction.





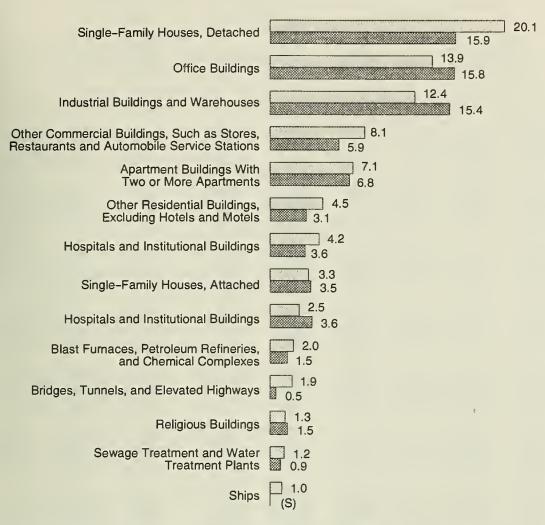
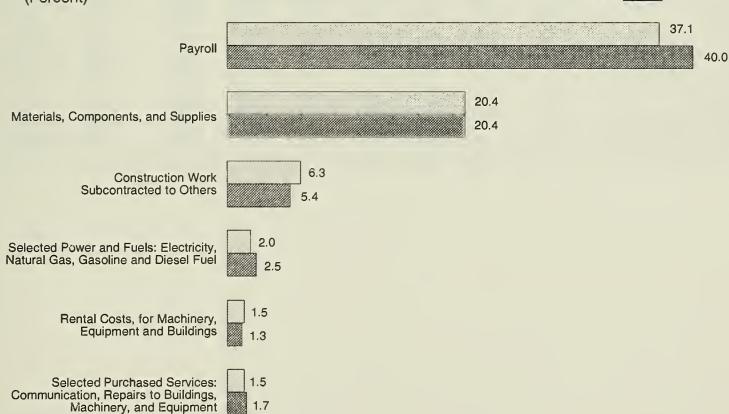


Figure 2. Selected Costs Per Dollar Value of Business Done (Percent)





For meaning of abbreviations and symbols, see introductory text.

### Table 1. General Statistics for Establishments With Payroll by State: 1987 and 1982

				1	987			
		Emplo	yees**	Pay	roll			
Location of establishment	Number of establishments	Alī	Construction workers	All employees	Construction workers	Construction worker hours (thousands)	Value of construction work	Net value of construction work†
	А	В	С	D	E	F	G	н
United States	29 867	169 <b>9</b> 68	145 385	2 978 578	2 386 175	223 559	<b>7 95</b> 3 3 <b>2</b> 3	7 445 552
AlabamaAlaskaArizonaArkansasCalifornia	356	2 277	1 977	34 396	27 559	3 064	103 009	96 676
	66	263	230	6 665	5 843	357	20 807	19 107
	501	2 682	2 284	38 080	31 421	3 601	99 106	95 811
	133	713	592	10 090	7 923	900	35 463	32 576
	3 660	21 370	18 422	417 008	339 754	27 079	1 144 368	1 086 309
Colorado Connecticut Delaware District of Columbia Florida	538	2 323	1 937	36 117	29 941	2 832	100 452	92 318
	679	3 457	2 877	67 260	53 012	4 553	178 456	161 223
	94	462	404	9 582	7 041	518	25 393	23 822
	*15	268	227	6 337	4 966	302	17 454	16 648
	1 824	10 776	9 222	149 550	119 652	14 303	400 418	372 326
Georgia Hawaii Idaho Illinois Indiana	541	4 142	3 651	70 732	56 021	5 548	183 033	171 118
	149	1 295	1 028	31 045	23 285	1 573	83 159	79 230
	84	224	194	3 064	2 674	207	8 146	7 619
	1 115	7 999	6 850	171 964	142 187	10 537	428 609	406 377
	583	3 165	2 702	54 926	46 871	4 336	137 922	132 064
lowa	253	1 108	950	16 496	13 050	1 243	47 478	46 069
	276	1 259	1 109	19 270	16 115	1 727	52 826	51 043
	292	1 732	1 515	28 378	23 053	2 392	79 006	74 568
	324	3 050	2 666	47 181	38 613	4 153	128 311	117 529
	243	1 218	1 065	16 662	15 059	1 725	39 157	38 015
Maryland	716	4 983	4 243	85 939	64 711	7 031	249 416	222 650
	974	5 210	4 446	94 539	74 905	6 755	264 982	250 162
	830	5 662	4 850	115 249	84 635	7 984	304 613	271 090
	413	2 692	2 310	57 143	47 577	3 691	143 589	134 557
	130	815	719	11 036	9 119	1 134	30 614	28 024
Missouri	671	4 683	3 997	87 312	71 120	5 904	203 370	196 659
	87	151	115	1 843	1 353	120	6 462	6 110
	210	861	755	13 318	11 394	1 304	35 478	33 459
	105	703	626	12 600	11 123	918	34 102	31 050
	244	1 155	991	16 575	13 909	1 440	42 409	41 654
New Jersey	1 262	5 141	4 374	100 481	82 160	6 689	275 169	254 870
	176	814	709	11 413	9 644	1 028	31 799	30 419
	2 183	12 182	10 267	244 774	194 109	15 702	675 524	629 717
	972	5 049	4 327	67 811	52 901	6 841	168 080	157 489
	103	410	359	6 286	5 274	429	15 108	14 740
Ohio Oklahoma Oregon Pennsylvania Rhode Island	1 265	6 564	5 592	118 030	95 889	8 642	303 382	285 815
	253	998	876	16 737	13 296	1 213	43 812	41 920
	410	1 620	1 411	23 563	20 266	2 059	71 186	69 511
	1 457	8 015	6 857	150 709	122 308	10 652	400 263	378 512
	242	877	711	14 598	10 749	1 164	38 086	36 250
South Carolina South Dakota Tennessee Texas Utah	488	2 790	2 427	32 468	26 564	3 720	96 043	85 523
	77	243	198	2 969	2 427	302	9 473	9 182
	391	2 598	2 238	41 310	31 749	3 399	102 111	96 003
	1 686	12 022	10 408	196 600	151 420	16 646	494 542	454 046
	198	750	631	10 569	9 087	845	31 233	29 919
Vermont Virginia Washington West Virginia Wisconsin Wyoming	115	622	538	7 568	6 520	849	18 538	17 604
	1 075	6 218	5 271	94 143	72 739	8 270	248 746	230 075
	609	3 023	2 476	54 975	42 621	3 840	156 752	147 713
	100	289	248	4 462	3 532	341	14 615	14 227
	639	2 904	2 392	46 591	37 343	3 525	125 782	120 810
	40	119	94	2 142	1 669	145	5 452	5 323

<sup>&</sup>lt;sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

		1987—	Con.				1982					
Value added††	Cost of meteriels, components, supplies, end fuels	Cost of construction work sub-contrected to others	Rental cost for machinery, equipment, and buildings	Capital expenditures, other then land	End-of-year gross book value of deprecieble essets	All employees**	Total construction receipts <sup>1</sup>	Velue added††	error (pe	ve stan of estir rcent) f olumn—	nate or	Location of establish- ment
ı	J	к	L	М	N	0	Р	Q	В	н	М	
5 716 473	1 803 729	507 770	123 717	147 339	873 623	136 130	4 652 154	3 359 932	1	1	4	U.S.
70 047	27 611	6 332	2 012	*5 232	19 818	1 719	51 553	36 169	8	12	55	AL
14 909	4 218	1 700	278	782	2 497	248	17 880	11 792	12	12	17	AK
71 477	25 807	3 295	1 652	1 499	11 918	1 657	47 270	33 044	6	4	16	AZ
24 939	7 644	*2 887	442	470	2 825	618	17 607	12 778	12	19	37	AR
836 719	255 398	58 059	20 384	20 849	118 117	12 771	564 638	414 296	2	2	7	CA
69 868	23 395	8 133	1 527	2 405	13 801	2 820	87 320	61 244	6	7	37	CO
125 084	38 316	17 232	2 043	2 915	17 617	2 090	70 872	51 081	5	4	15	CT
19 352	(D)	1 570	98	*364	1 611	361	11 016	7 875	8	22	63	DE
13 356	(D)	806	24	138	897	222	8 757	6 741	20	14	(W)	DC
271 441	102 022	28 091	6 850	7 235	42 420	8 860	247 492	161 616	3	3	11	FL
128 760	43 526	11 914	2 112	2 613	11 862	3 708	108 258	77 525	6	4	28	GA
65 566	(D)	3 929	1 229	2 071	12 336	918	51 621	38 371	9	6	23	HI
5 105	(D)	*527	*152	*206	*2 602	314	11 198	6 882	16	15	43	ID
322 896	85 820	22 232	6 049	5 269	41 408	5 568	203 739	154 460	3	3	12	IL
103 109	30 371	5 858	1 877	3 099	18 428	2 590	89 721	67 378	5	4	16	IN
36 196	(D)	1 409	353	822	6 295	1 269	36 594	26 455	10	8	21	IA
38 052	13 835	1 782	507	1 767	11 672	942	31 224	23 243	10	7	27	KS
57 997	16 772	4 437	1 186	2 188	9 490	1 757	51 200	36 577	7	9	23	KY
90 509	27 215	10 781	2 793	2 257	20 583	3 285	107 973	77 476	6	8	28	LA
31 023	8 637	1 142	*628	*2 092	7 236	781	17 812	14 007	14	14	48	ME
165 316	58 040	26 765	4 479	4 878	17 680	3 644	106 754	75 483	4	5	17	MD
198 646	53 253	14 819	3 390	3 968	23 352	3 860	134 435	97 367	4	3	13	MA
202 149	72 143	33 522	4 226	6 674	27 771	3 389	114 786	83 624	4	4	18	MI
102 721	33 361	9 031	1 760	2 129	16 352	1 834	71 341	50 393	5	4	12	MN
21 099	7 037	2 590	297	*270	*5 325	798	23 169	16 395	10	11	47	MS
154 850 5 010 25 152 22 963 33 941	43 618 (D) 8 383 (D) (D)	6 711 352 2 019 3 051 754	2 323 44 637 723 237	3 208 *455 682 *809 683	23 283 *1 725 5 838 4 926 4 007	3 295 380 699 845 693	120 709 9 295 19 025 33 997 21 077	91 909 6 729 13 953 23 540 15 240	5 21 8 13	4 17 8 14 13	13 56 30 46 26	MO MT NE NV NH
198 969	60 283	20 299	3 925	3 172	25 357	3 636	137 989	102 632	4	3	16	NJ
21 068	9 618	1 379	*784	510	4 601	981	24 971	17 912	13	13	40	NM
487 626	148 773	45 807	7 970	7 387	43 183	10 022	397 064	291 155	2	2	11	NY
116 462	44 496	10 591	2 198	4 351	24 700	3 345	75 191	51 691	6	5	17	NC
10 720	4 046	368	175	*309	3 515	298	11 093	7 982	21	25	47	ND
224 404	66 688	17 566	4 915	5 620	37 251	5 116	168 199	122 101	3	3	14	OH
32 356	9 874	1 892	508	736	9 352	1 746	60 477	39 817		15	24	OK
53 067	16 512	1 674	1 274	934	6 433	861	34 601	25 486		11	29	OR
300 946	81 092	21 750	6 788	7 178	45 612	7 433	272 783	204 085		3	12	PA
29 191	7 119	1 836	455	1 219	2 484	554	13 625	10 142		6	34	RI
61 875	24 443	10 520	1 329	2 385	11 566	2 183	46 934	32 798	3	9	30	SC
6 964	2 693	291	41	182	2 458	198	4 731	3 645		12	29	SD
68 061	29 081	6 108	1 351	2 723	12 710	2 113	61 135	41 345		6	21	TN
340 316	116 483	40 495	11 884	8 492	60 970	15 447	549 532	392 742		3	11	TX
21 617	9 496	1 313	783	635	4 419	698	19 928	13 495		10	37	UT
13 543 174 181 115 693 11 548 94 758 4 831	4 559 58 760 34 880 2 816 28 055 1 340	933 18 670 9 039 *388 4 971 128	113 3 250 2 926 *402 2 269 *47	*351 4 688 3 773 (S) 3 219 *182	2 236 26 223 24 586 *2 486 17 391 *2 376	323 3 974 1 911 493 2 591 256	6 248 104 877 75 133 15 928 77 243 6 124	4 584 76 090 54 293 11 884 57 954 4 434	16 4 6 14 7 18	16 6 5 24 6 21	43 20 22 (S) 22 48	VT VA WA WV WI WI WY

### Table 2. Detailed Statistics for Establishments With Payroll: 1987 and Earlier Census Years

ltem						ive stan stimate		
	1987	1982	1977	1972	1987	1982	1977	1972
Number of establishments in business during year	29 867	24 779	27 369	29 011	1	1	1	2
Proprietors and working partners	11 525	12 750	21 248	23 828	2	2	2	2
All employees**	169 968	136 130	133 106	136 575	1	1	1	1
Construction workers:								
March May	126 443 148 094	102 476 122 997	101 365 127 571	102 938 123 847	1	1 1	1	1
AugustNovember	164 936 142 139	133 837 114 607	136 342 119 388	142 580 120 621	1	1	1	1
Average	145 385	121 353	121 288	125 807	1	1	1	,
Other employees: March	24 829	14 670	11 160	10 438	1	2	2	2
MayAugust	24 399 24 607	(NA) (NA)	(NA) (NA)	(NA) (NA)	1 1	(NA) (NA)	(NA) (NA)	(NA) (NA)
NovemberAverage	24 441 24 583	(NA) (NA)	(NA) (NA)	(NA) (NA)	1 1	(NA) (NA)	(NA) (NA)	(NA) (NA)
Construction worker hours (thousands):								
January to March	47 481 56 607	36 859 44 299	(NA) (NA)	(NA) (NA)	1	1 1	(NA) (NA)	(NA) (NA)
July to SeptemberOctober to December	64 546 54 923	48 741 41 702	(NA) (NA)	(NA) (NA)	1	1 1	(NA) (NA) (NA)	(NA) (NA)
Total hours worked	223 559	171 602	(NA)	(NA)	i	i	(NA)	(NA)
Payroll, all employees		1 875 744 1 589 420	1 361 463 1 191 130	1 080 729 961 201	1	1	1	1
Payroll, other employees	592 402	286 324	170 333	119 528	i	i	i	i
First quarter payroll, all employees	625 980	386 532	267 898	(NA)	1	1	1	(NA)
Employer costs for fringe benefits, all employees	627 051 478 480	324 644 264 049	249 079	(NA)	1	1	1	(NA)
Legally required expenditures	148 570	60 595	161 131 87 949	(NA) (NA)	1	1	1	(NA) (NA)
Dollar value of business done	8 027 973	4 688 082	3 205 318	2 405 714	1	1	1	1
Value of construction work¹	3 405 709	4 652 154 1 806 303	3 171 129 1 442 314	2 382 301 941 629	2	1 1	1	2
Land receipts <sup>2</sup> Other business receipts	(NA) 74 650	35 927	(NA) 34 189	(NA) 23 413	(NA) 5	(NA) 5	(NA) 4	(NA) 5
Net value of construction work†	7 445 552	4 398 612	3 051 294	2 290 258	1	1	1	1
Value added††	5 716 473	3 359 932	2 362 004	1 839 157	1	1	1	1
Selected costs	2 311 499	1 328 150	843 314	566 557	1	1	1	2
Materials, components, and supplies <sup>3</sup> Construction work subcontracted to others	1 641 607 507 770	958 511 253 542	652 394 119 835	474 514 92 043	1 3	1 2	1 2	3
Selected power, fuels, and lubricants	162 121 19 761	116 096 13 837	71 086 5 840	(NA) (NA)	1 2	1 3	1 3	(NA) (NA)
Natural gas Gasoline and diesel fuel	4 543 129 315	4 365 91 239	4 371 54 882	(NA) (NA)	4	4 2	4	(NA) (NA)
On highway useOff highway use	114 005 15 309	(NA) (NA)	(NA) (NA)	(NA) (NA)	1 1	(NA) (NA)	(NA) (NA)	(NA) (NA)
Other, including lubricating oils and greases		6 654	5 994	(NA)	3	4	5	(NA)
Rental cost for machinery, equipment, and buildings	123 717	63 242	34 766	(NA)	2 2	2	1	(NA)
For machinery and equipmentFor buildings	75 966 47 751	42 210 21 032	24 914 9 852	12 917 (NA)	3	3	2	(NA)
Selected purchased services	121 371	78 661	67 955	(NA)	2	1	4	(NA)
Communication services Repairs to buildings and other structures	54 894 8 289	32 365 5 166	28 045 3 400	(NA) (NA)	2 2 5	3	6	(NA) (NA)
Repairs to machinery and equipment	58 188	41 130	36 511	(NA)	2	2	5	(NA)
Ownership of construction projects:  Value of construction work1	7 953 323	4 652 154	3 171 129	2 382 301	1	1	1	1
Government owned	1 171 608 393 823	588 562 (NA)	376 108 (NA)	421 017 (NA)	3 4	(NA)	(NA)	(NA)
State and local Privately owned	777 785 6 781 714	(NA) 4 063 592	(NA) 2 795 021	(NA) 1 961 284	3	(NA)	(NA)	(NA)

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

2Data were collected separately for establishments classified in SIC 1531, Operative Builders, and SIC 6552, Subdividers and Developers, Except Cemeteries. For all other industries, data are included in other business receipts.

3For 1972, includes data for power, fuels, and lubricants.

### Table 3. Assets, Capital Expenditures, and Depreciation for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Item				l error of estimate cent)
	1987	1982	1987	1982
BUILDINGS AND OTHER STRUCTURES, MACHINERY, AND EQUIPMENT				
Beginning-of-year gross book value of depreciable assets Capital expenditures, other than land New Used Retirements and disposition of depreciable assets	759 537 147 339 114 268 33 070 33 253	649 317 90 236 65 538 24 698 23 616	2 4 4 6 7	1 3 3 6 4
End-of-year gross book value of depreciable assets	873 623	715 937	2	1
Depreciation charges during year	119 375	106 590	2	2
Buildings and other Structures, Additions, and Related Facilities				
Beginning-of-year gross book value of depreciable assets Capital expenditures, other than land New buildings and other structures Used buildings and other structures Retirements and disposition of depreciable assets	181 271 19 153 12 406 6 747 6 079	160 763 10 927 7 537 3 390 3 507	4 8 11 10 21	2 4 9 9
End-of-year gross book value of depreciable assets	194 346	168 182	4	3
Depreciation charges during year	19 278	13 986	6	3
Machinery and Equipment				
Beginning-of-year gross book value of depreciable assets  Capital expenditures, other than land  New machinery and equipment, including automobiles and trucks  New automobiles and trucks, intended primarily for highway use  Used machinery and equipment, including automobiles and trucks  Retirements and disposition of depreciable assets	578 266 128 185 101 862 69 509 26 323 27 174	488 554 79 309 58 001 33 125 21 308 20 108	2 4 4 7 7	1 3 3 4 5
End-of-year gross book value of depreciable assets	679 277	547 755	2	2
Depreciation charges during year	100 097	92 604	2	2

### Table 4. Value of Inventories for Establishments With Payroll: 1987 and 1986

Item	Establishments with payroll	Relative standard error of estimate (percent)
All establishments:  Number	29 867 7 953 323	1
Establishments with inventories: Number	6 274 2 928 867	3 2
End of 1987, materials and suppliesEnd of 1986, materials and supplies	70 590 63 787	4 5
Establishments with no inventories:  Number	17 540 3 425 348	2 2
Establishments not reporting: Number Value of construction work	6 053 1 599 108	3 3

<sup>\*</sup>Inventories at cost or market prior to any adjustment to correct to LIFO values.

### Table 5. Selected Statistics for Establishments With Payroll by Employment Size Class: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

					Establishn	nents with an a	average of-			
Selected statistics	Total	1 to 4 employees	5 to 9 employees	10 to 19 employees	20 to 49 employees	50 to 99 employees	100 to 249 employees	250 to 499 employees	500 to 999 employees	1,000 employees or more
1987										
Number of establishments  All employees** Payroll, all employees Construction worker hours (thousands) Dollar value of business done Value of construction work* Net value of construction work*	29 867 169 968 2 978 578 223 559 8 027 973 7 953 323 7 445 552	(S) (S) (S) (S) (S) (S) (S)	5 793 36 981 558 816 46 896 1 540 244 1 527 383 1 423 511	2 465 32 590 569 775 40 245 1 397 048 1 381 694 1 303 553	1 190 34 174 718 584 47 712 1 750 065 1 731 396 1 648 181	205 13 374 334 425 19 921 759 945 749 964 715 971	69 9 522 214 229 13 441 509 268 504 939 487 110	13 4 130 102 589 5 909 249 616 249 321 223 333	-	-
Value added††	5 716 473 1 803 729 507 770 123 717 147 339 873 623	(S) (S) (S) (S) (S) (S)	1 093 401 342 970 103 871 21 804 36 127 156 924	1 001 397 317 511 78 140 22 942 27 392 158 059	1 281 510 385 338 83 215 31 525 28 622 220 109	565 820 160 130 33 993 13 973 10 377 71 335	369 114 122 325 17 829 9 797 4 155 47 430	164 222 59 406 25 988 4 348 960 15 308	-	-
1982										
All employees** Total construction receipts¹ Value added††	136 130 4 652 154 3 359 932	34 474 1 021 707 718 588	26 103 768 636 543 431	24 317 819 521 583 943	26 691 990 334 719 800	11 266 491 644 353 406	8 811 375 601 293 888	2 696 114 099 87 553	1 771 70 611 59 322	- -
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)										
All employees**  Net value of construction work†  Capital expenditures, other than land	1 1 4	(S) (S) (S)	3 3 11	3 2 7	2 1 5	1 1 3	(W) (W)	(%) (%) (%)	-	=

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

## Table 6. Selected Statistics by Size Class of the Dollar Value of Business Done for Establishments With Payroll: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

			(S) (S) (S) (S) (S) (S) (S) 483 459 450 990 492 568 562 773 354 945 249 457 168 (S) (S) (S) (S) (S) (S) 483 459 450 090 492 568 562 773 354 945 249 457 168 (S) (S) (S) (S) (S) 1 393 271 1 187 301 1 290 800 1 466 984 906 212 599 414 471 (S) (S) (S) (S) (S) 1 281 656 1 088 294 1 199 189 1 349 094 845 020 564 770 439 (S) (S) (S) (S) (S) 315 641 269 531 287 493 321 207 194 591 131 867 114 (S) (S) (S) (S) (S) 30 745 29 878 22 402 26 964 14 327 5 940 2 2 198 190 292 1918 119 956 299 025 553 450 467 100 496 232 575 208 343 939 214 563 243 119 956 299 025 553 450 467 100 496 232 575 208 343 939 214 563 243 243								
Selected statistics	Total	Less than \$25,000	to	to	to	to	to	to	to	to	\$10,000,000 or more
1987											
Number of establishments  All employees** Payroll, all employees Construction worker hours (thousands) Dollar value of business done Value of construction work¹ Net value of construction work†	29 867 169 968 2 978 578 223 559 8 027 973 7 953 323 7 445 552	99999999	(9) (9) (9) (9) (9) (9) (9)	(S)	36 996 483 459 47 325 1 393 271 1 382 442	28 054 450 090 34 794 1 187 301 1 175 312	26 085 492 568 34 799 1 290 800 1 278 071	25 572 562 773 36 037 1 466 984 1 447 895	13 725 354 945 20 647 906 212 900 099	8 666 249 457 12 705 599 414 593 676	30 6 266 168 208 9 169 471 498 468 278 439 287
Value added††Cost of materials, components, supplies, and	5 716 473	(S)	(S)	(S)	976 844	830 751	924 425	1 046 975	656 541	438 641	327 970
Cost of materials, components, supplies, and fuelsCost of construction work subcontracted to	1 803 729										114 537
othersRental cost for machinery, equipment, and	507 770										28 991
buildingsCapital expenditures, other than land	123 717 147 339	(S) (S)	(S) (S)	(S) (S)							8 486 2 276
End-of-year gross book value of depreciable assets	873 623	(S)	(S)	(S)	171 141	123 697	131 799	179 518	107 136	46 552	31 679
1982											
All employees** Total construction receipts1 Value added††	136 130 4 652 154 3 359 932	6 925 64 108 46 918	168 363	415 996	776 390	659 172	698 945	798 641	480 261	298 190	5 235 292 087 243 538
1987 RELATIVE STANDARD ERROR OF ESTIMATE (PERCENT)											
All employees**  Net value of construction work†  Capital expenditures, other than land	1 1 4	(S) (S) (S)	(S) (S) (S)	(S) (S) (S)			3		1	(W) (W) (W)	(%) (%)

Note: Underscored data fields include data from adjoining columns which have been withheld to avoid disclosing data for individual companies.

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

In earlier censuses construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 7. Value of Construction Work for Establishments With Payroll by Type of Construction: 1987 and 1982

		Value of cons	truction work <sup>1</sup>					
Type of construction	Total	New construction	Additions, alterations, or reconstruction <sup>2</sup>	Maintenance and repair		f estimat	andard er e (percen umn—	
	А	В	С	D	А	В	С	D
1987								
Value of construction work <sup>1</sup>	7 953 323	3 <b>001 27</b> 9	1 339 642	2 926 718	1	1	2	1
Building construction Single-family houses Single-family houses, detached Single-family houses, attached Apartment buildings with two or more apartments Other residential buildings, including hotels and motels Hotels and motels Other residential buildings, excluding hotels and motels Other residential buildings, excluding hotels and motels Other commercial buildings such as stores, restaurants, and automobile service	6 291 053 1 929 573 1 594 775 334 798 567 725 360 642 224 176 136 466 1 105 840	2 768 344 932 192 740 161 192 031 224 681 157 085 113 255 43 830 489 963	1 231 058 264 553 228 026 36 527 75 973 91 273 59 696 31 577 296 245	2 291 652 732 827 626 586 106 241 267 070 112 283 51 224 61 059 319 631	1 2 2 4 4 4 4 7 2	1 2 3 5 7 4 3 10 2	2 3 4 8 7 10 14 10 3	2 3 6 5 5 4 9 3
stations. Industrial buildings and warehouses Industrial buildings Warehouses Religious buildings Educational buildings Hospitals and institutional buildings Other nonresidential buildings	646 199 988 816 839 501 149 315 99 174 213 712 263 224 116 148	298 006 417 459 332 701 84 758 28 869 72 659 108 944 38 486	144 539 161 893 140 439 21 454 23 577 64 139 88 005 20 861	203 653 409 463 366 360 43 103 46 727 76 913 66 274 56 811	2 2 2 5 3 4 3 10	3 3 7 6 6 3 17	33 4 5 5 6 4 12	3 3 7 5 6 8 13
Nonbullding construction  Highways, streets, and related facilities Bridges, tunnels, and elevated highways Heavy industrial facilities Blast furnaces, petroleum refineries, and chemical complexes Power plants Sewage treatment and water treatment plants Ships Other nonbuilding construction	976 587 158 832 153 356 292 370 201 543 90 827 93 871 82 877 195 281	232 936 54 397 18 204 60 433 24 858 35 575 59 147 6 584 34 171	108 584 30 149 11 367 28 592 20 039 8 553 12 688 5 901 19 887	635 066 74 285 123 784 203 344 156 645 46 698 22 036 70 391 141 226	3 7 10 3 2 6 6 9	4 10 13 2 3 3 7 17 13	5 14 22 6 8 5 8 6 17	3 9 12 3 4 2 14 6 10
Construction work, n.s.k.	685 683	(NA)	(NA)	(NA)	3	(NA)	(NA)	(NA)
1982								
Value of construction work¹	4 652 154	2 079 741	(NA)	2 572 412	1	1	(NA)	1
Building construction Single-family houses Single-family houses, detached Single-family houses, attached Apartment buildings with two or more apartments Other residential buildings, including hotels and motels Hotels and motels Other residential buildings, excluding hotels and motels Office buildings Other commercial buildings such as stores, restaurants, and automobile service	739 396 167 408 316 700 141 730 (NA) (NA)	1 575 542 378 552 290 218 88 333 116 839 72 053 (NA) (NA) 376 557	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	1 951 982 528 253 449 178 79 075 199 861 69 677 (NA) (NA) 356 506	1 2 2 4 3 2 (NA) (NA)	1 2 3 5 5 3 (NA) (NA)	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	1 2 2 6 3 4 (NA) (NA)
Other commercial buildings such as stores, restaurants, and automobile service stations Industrial buildings and warehouses Industrial buildings Warehouses Religious buildings Educational buildings Hospitals and institutional buildings Other nonresidential buildings	274 155 717 225 624 466 92 758 68 783 148 255	121 271 310 282 253 227 57 054 22 472 63 108 92 051 22 357	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	152 883 406 942 371 239 35 703 46 310 85 146 69 991 36 418	2 1 1 3 4 3 2 8	2 1 2 2 4 4 3 18	(A A A A A A A A A A A A A A A A A A A	4 2 2 6 4 4 3 9
Nonbuilding construction  Highways, streets, and related facilities Bridges, tunnels, and elevated highways Blast furnaces, petroleum refineries, and chemical complexes Power plants Power plants, nuclear Power plants, except nuclear Sewage treatment and water treatment plants Sewage treatment plants Water treatment plants Other nonbuilding construction	71 480 21 900 167 871 147 108 78 028 69 080 40 182	243 596 33 204 4 758 50 703 88 986 57 482 31 503 23 758 14 534 9 223 42 187	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	355 710 38 275 17 141 117 168 58 122 20 545 37 577 16 423 7 909 8 513 108 581	2 10 13 3 1 1 2 6 6 11	3 13 12 3 (W) (W) 1 6 7 8 20	(NA) (NA) (NA) (NA) (NA) (NA) (NA) (NA)	2 12 15 3 2 5 3 9 7 17
Construction work, n.s.k.	525 323	260 602	(NA)	264 719	3	3	(NA)	3

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

In 1982, data for additions, alterations, or reconstruction were collected separately for SIC 1521, 1522, 1531, 1541, and 1542. For all other industries, data are included with "New construction."

## Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

appendixes]					onstruction ork			Contrat		Relative	
Item	Number of establishments	All employees**	Payroll, all employees	For all types	For specialized type	Net value of construction work†	Value added††	Cost of construction work sub-contracted to others	of (pe	dard e estima rcent) olumn-	ate for
	А	В	O	D	E	F	G	н	В	D	Н
All establishments	29 867	169 968	2 978 578	7 953 323	4 639 694	7 445 552	5 716 473	507 770	1	1	3
Establishments not specializing by typeEstablishments specializing 51 percent or more		51 952 118 015	1 013 587 1 964 990	2 567 110 5 386 213	(NA) 4 639 694	2 416 880 5 028 672	1 861 586 3 854 886	150 229 357 540	1 2	1 2	3 5
SINGLE-FAMILY HOUSES, DETACHED	25 555			0 000 2.10		0 020 012	0 00 1 000	30. 0.10	_	_	
Ali establishments specializing in type	11 095	39 105	5 <b>10 873</b>	1 464 120	1 258 811	1 358 298	1 049 445	105 822	2	2	7
Establishments with —				.=7	.==						
100 percent specialization	2 610	11 940 9 225 7 344	145 470 121 287 102 844	457 889 339 640 273 975	457 889 315 691 226 184	423 437 319 282 253 797	323 365 249 390 195 532	34 452 20 358 20 178	5 6 7	5	10
70 to 79 percent specialization 60 to 69 percent specialization	1 196	5 224 4 282	64 008 63 208	179 011 169 991	130 728 104 602	163 986 159 207	129 869 122 136	15 025 10 784	7 8	6 7 7	13 29 22
51 to 59 percent specialization	290	1 087	14 053	43 611	23 714	38 588	29 151	5 023	17	16	25
SINGLE-FAMILY HOUSES, ATTACHED				,							
Ali establishments specializing in type	873	4 411	62 418	168 159	141 368	156 442	117 365	11 716	8	8	19
Establishments with — 100 percent specialization	284	1 139	16 137 15 107	42 096	42 096 38 898	38 220	29 637	3 876	17	16 17	33
90 to 99 percent specialization	104	1 253 569 870	7 736 13 771	41 451 25 904 33 744	21 371 24 300	39 659 24 988 28 731	30 163 18 430 19 307	1 792 915 5 013	18 23 16	21 16	33 32 30 33
60 to 69 percent specialization51 to 59 percent specialization	103	445 132	7 633 2 033	14 521 10 440	8 834 5 866	14 498 10 344	12 053 7 773	*22	16	16	33 62 70
APARTMENT BUILDINGS WITH TWO OR MORE APARTMENTS											
All establishments specializing in type	1 557	7 518	117 755	385 239	325 337	336 620	247 653	48 619	5	6	14
Establishments with — 100 percent specialization	689	2 932	41 831	128 334	128 334	114 219	82 655	14 114	8	8	14
90 to 99 percent specialization80 to 89 percent specialization	134	1 190 697	18 749 11 969	75 525 29 419	70 421 24 155	52 150 27 641	37 587 21 775	23 375 1 777	13 15	17 15	28
70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	197	1 383 930 384	23 801 13 749 7 654	88 216 46 967 16 775	64 572 28 632 9 221	82 758 43 704 16 146	60 587 33 345 11 703	5 458 3 263 *629	12 16 31	18 15 30	27 21 63
HOTELS AND MOTELS											
All establishments specializing in type	159	951	19 035	53 899	40 120	49 666	39 647	4 233	16	19	27
Establishments with — 100 percent specialization		92	*1 264	*5 597	*5 597	*5 343	*3 720		33	44	50
90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization	*28	(D) *191 (D)	(D) 2 438 (D)	(D) 6 738 (D)	(D) 5 648 (D)	(D) 5 844 (D)	(D) 4 734 (D)	(D) *894 (D)	44	35	(D) 66
60 to 69 percent specialization51 to 59 percent specialization	49	210 296	4 829 6 061	13 506 12 290	8 333 6 729	12 034 (D)	9 714 10 329	*1 472 (D)	(D) 31 28	(D) 28 13	(D) 49 (D)
OTHER RESIDENTIAL BUILDINGS, EXCLUDING HOTELS AND MOTELS											
All establishments specializing in type	228	1 458	21 736	63 804	56 310	58 846	44 766	4 957	13	13	20
Establishments with — 100 percent specialization	163	733	9 144	31 893	31 893	29 288	21 764	2 604	19	19	36
90 to 99 percent specialization80 to 89 percent specialization	*18 5	201 *90	4 133 *1 555	9 040 *5 537	8 353 4 430	7 962 5 462	5 451 4 353	1 077	19 32 43	31	10
70 to 79 percent specialization60 to 69 percent specialization	26	(D) *182	(D) 2 820	(D) 6 501	(D) 3 970	(D) 5 447	(D) 4 434	1 054	(D) 43	42 (D) 33 (D)	(S) (D) 17
51 to 59 percent specialization  OFFICE BUILDINGS	2	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(D)	(0)	(D)
	1 219	12 037	295 486	702 181	537 880	659 903	507 427	42 277	3	3	8
All establishments specializing in type  Establishments with —	1 213	12 037	295 460	702 101	337 000	039 903	307 427	42 277	"	3	
100 percent specialization 90 to 99 percent specialization	66	2 146 886	52 083 27 305	136 444 60 144	136 444 56 674	133 412 56 833	107 053 44 971	3 031 3 311	13 8	7 10	10 22 20
80 to 89 percent specialization	378	1 727 2 309	46 163 48 589	100 514 141 945	82 375 102 606	95 914 125 094	75 789 88 083	4 600 16 851	8	10 7 7	20 18 9
60 to 69 percent specialization 51 to 59 percent specialization		3 635 1 331	94 308 27 036	202 503 60 629	126 106 33 672	191 762 56 887	148 078 43 449	10 740 3 742		7	10
OTHER COMMERCIAL BUILDINGS SUCH AS STORES, RESTAURANTS, AND AUTOMOBILE SERVICE STATIONS											
All establishments specializing in type	1 265	7 165	124 028	311 695	255 554	287 324	216 897	24 370	5	5	12
Establishments with — 100 percent specialization	566	2 498	40 598	105 157	105 157	95 852	72 034	9 304	10	8	12
90 to 99 percent specialization80 to 89 percent specialization	87 115	753 725	17 107 10 030	51 372 24 052	47 119 19 747	43 440 23 503	30 017 19 143		11 19	11 15 12	30 19 12
70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization	214	1 022 1 574 589	16 924 26 449 12 919	40 999 63 900 26 214	29 871 39 445 14 213	37 588 61 405 25 534	28 913 46 610 20 178	2 495	13 13 14	11	38

# Table 8. Selected Statistics for Establishments With Payroll by Specialization in Types of Construction: 1987—Con.

[Thousand dollars. Detail may not add to total due to rounding. This table presents selected statistics for establishments according to degree of specialization in major types of construction work. If number of establishments or value of construction work for a given type of specialization are relatively insignificant, data may not be shown. In addition, data are not shown in this table where distribution of the value of construction work by type of construction was not provided in table 7. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

				Value of co		Net		Cost of construction	stand	lative ard err stimate	
Item	Number of establishments	All employees**	Payroll, all employees	For all types	For specialized type	value of construction work†	Value added††	work sub- contracted to others	(perc	ent) fo	or
	А	В	С	D	E	F	G	н	В	D	Н
INDUSTRIAL BUILDINGS											
All establishments specializing in type	727	11 027	228 891	586 306	497 751	550 530	429 246	35 775	4	3	5
Establishments with —  100 percent specialization	312 69 91 106 124 23	4 558 891 1 207 1 322 2 173 874	98 594 20 459 25 181 25 234 40 114 19 307	260 846 50 430 66 017 65 007 102 430 41 573	260 846 46 805 54 514 47 576 64 828 23 180	234 351 48 133 65 128 62 256 99 820 40 841	177 774 40 644 51 284 50 286 76 708 32 548	26 495 2 297 889 2 751 2 610 732	6 9 13 12 10 7	5 6 14 11 7 5	6 1 3 17 22 9
EDUCATIONAL BUILDINGS							44.000	2 014	14	12	35
All establishments specializing in type	230	1 261	22 941	56 311	42 220	54 297	44 829	2 014	14		33
Establishments with —  100 percent specialization —  90 to 99 percent specialization —  80 to 89 percent specialization —  70 to 79 percent specialization —  60 to 69 percent specialization —  51 to 59 percent specialization —	38 35 62 50 36 9	141 129 177 419 363 30	7 764	11 071 *3 558 4 908 11 495 23 357 1 921	11 071 *3 332 4 049 8 673 14 113 979		9 050 2 541 4 238 9 419 18 132 1 448	*262 - *174 *1 202	33 40 35 31 21 37	34 41 32 29 19 33	(D) 60 - 62 56 (D)
HOSPITALS AND INSTITUTIONAL BUILDINGS	220	1 359	24 623	62 329	49 363	55 874	42 181	6 454	9	9	7
All establishments specializing in type	220	1 333	24 020	52 525						10	
Establishments with —  100 percent specialization —— 90 to 99 percent specialization —— 80 to 89 percent specialization —— 70 to 79 percent specialization —— 60 to 69 percent specialization —— 51 to 59 percent specialization ——	*18 36 90	(S) 414 152 391	(S) 7 525 2 791 6 325		(S) 13 550 5 798 10 901	(S) 15 304 7 352 16 813	(S) 11 342 5 996 13 782	1 415 625 2 211		16 (S) 9 <b>27</b> 21 53	40 36 (S
HIGHWAYS, STREETS, AND RELATED FACILITIES							05.000	6 065	9	8	38
All establishments specializing in type	228	2 247	42 334	153 217	150 17	147 151	95 929	0 005			
Establishments with —  100 percent specialization —  90 to 99 percent specialization —  80 to 89 percent specialization —  70 to 79 percent specialization —  60 to 69 percent specialization —  51 to 59 percent specialization —	*10	127 4 (S	3 536 (S	10 660 (S	10 177 (S	(D (D	7 462 ) (S	(D)	(W)	(W) (S) 43	3 (0)
BRIDGES AND ELEVATED HIGHWAYS											
All establishments specializing in type	_ 18	1 384	30 560	124 46	8 113 56	1 115 98	91 21	4 8 48	12	14	2
Establishments with —  100 percent specialization	- - - -	4 36	3 4 676 8 6 31- 0) (D	24 25 4 31 99 ) (C	8 22 73 7 25 81 0) (D	4 20 01: 3 30 92 0) (D	13 46 2 26 80 0) (D	3 *4 24! 8 1 07! 0) (D	37 (D)	16 32 39 (D)	(0
BLAST FURNACES, PETROLEUM REFINERIES, AND CHEMICAL COMPLEXES											
All establishments specializing in type	_ 13	3 62	72 21	7 188 95	152 97	183 26	3 142 28	5 69	1 5	4	
Establishments with —  100 percent specialization 90 to 99 percent specialization 80 to 89 percent specialization 70 to 79 percent specialization 60 to 69 percent specialization 51 to 59 percent specialization		12 1 14 5 35 8 68 27 67 26 39 4 38	6 93 11 14 17 11 12 94 13 7 04	7 17 06 1 37 82 0 38 46 4 24 88	34 15 78 21 31 82 35 27 67 34 15 28	16 88 20 (0 77 38 22 55 23 72	17 12 80 20) 29 29 27 30 22	77 17 99 (E 27 23 41 *1 13	7 14 0) 8 8 12 3 20	12 7 10 18	(
SHIPS					20.5	74.0	54 55 78	84 2 67	4 7	,   5	5
All establishments specializing in type		1 08	28 91	2 77 0	29 69 0	53 74 3	55 //	2 07			
Establishments with —  100 percent specialization	 	-	S) (	S) (	S) (	S) ( D) (	S) (	(S) (	)7 (S S) (S D) (D D) (D	) (S	)   (

### Table 9. Quarterly Construction Worker Hours and Employment for Establishments With

				January t	o March	April to June		
Location of establishment	Number of establishments	number of construction workers	Construction worker hours (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)	
	А	В	С	D	E	F	G	
United States	29 867	145 385	<b>22</b> 3 559	126 443	<b>47 4</b> 81	148 094	56 607	
Alabama	356 66	1 977	3 064 357	1 784 125	677 44	1 970	785	
AlaskaArizona	501	230 2 284	3 601	2 018	836	210 2 192	77 899	
Arkansas	133 3 660	592 18 422	900 27 079	542 16 808	195	576	211	
California	3 000	10 422	27 079	10 000	6 062	18 355	6 677	
Colorado	538	1 937	2 832	1 754	622	1 945	716	
Connecticut Delaware	679 94	2 877 404	4 553 518	2 496 357	955 108	3 042 415	1 193 135	
District of Columbia	*15	227	302	239	71	227	87	
Florida	1 824	9 222	14 303	8 803	3 350	9 087	3 467	
Georgia	541	3 651	5 548	3 342	1 232	3 842	1 474	
Hawaii	149	1 028 194	1 573 207	904 210	320 57	974 190	391 47	
Illinois	1 115	6 850	10 537	5 788	2 147	6 945	2 652	
Indiana	583	2 702	4 336	2 192	866	2 847	1 121	
lowa	253	950	1 243	770	208	1 080	358	
Kansas	276 292	1 109 1 515	1 727 2 392	866 1 268	349	1 203 1 1 507	451 597	
Kentucky Louisiana	324	2 666	4 153	2 469	484 969	2 801	949	
Maine	243	1 065	1 725	736	294	1 106	476	
Maryland	716	4 243	7 031	3 615	1 440	4 377	1 805	
Massachusetts	974	4 446 4 850	6 755 7 984	3 495 4 050	1 328	4 688 5 023	1 733 2 028	
Michigan Minnesota	830 413	2 310	3 691	1 933	1 639 739	2 426	904	
Mississippi	130	719	1 134	633	246	696	249	
Missouri	671	3 997	5 904	3 336	1 199	4 080	1 492	
Montana	87	115	120	89	17	149	43	
Nebraska	210 105	755 626	1 304 918	662 566	270 222	783 604	334 224	
New Hampshire	244	991	1 440	784	283	994	358	
New Jersey	1 262	4 374	6 689	3 552	1 320	4 535	1 734	
New Mexico	176	709	1 028	692	269	640	250	
New York North Carolina	2 183 972	10 267 4 327	15 702 6 841	8 765 3 662	3 339 1 308	10 407 4 228	4 022 1 648	
North Dakota	103	359	429	275	65	354	109	
Ohio	1 265	5 592	8 642	4 204	1 702	5 908	2 265	
Oklahoma	253	876	1 213	743	254	913	300	
Oregon Pennsylvania	410 1 457	1 411 6 857	2 059 10 652	1 098 5 750	370 2 176	1 290 7 105	488 2 740	
Rhode Island	242	711	1 164	471	180	687	294	
South Carolina	488	2 427	3 720	2 215	819	2 595	1 018	
South Dakota	77	198	302	112	46	217	72	
Tennessee	391 1 686	2 238 10 408	3 399 16 646	1 914 10 886	697 4 110	2 213 10 632	824 4 285	
Utah	198	631	845	560	165	639	191	
Vermont	115	538	849	373	167	561	228	
Virginia	1 075	5 271	8 270	4 577	1 761	5 349	2 167	
Washington	609 100	2 476 248	3 840 341	1 954 173	764 60	2 644	1 014 100	
West Virginia Wisconsin	639	2 392	3 525	1 755	638	252 2 475	864	
Wyoming	40	94	145	61	20	95	38	

<sup>&</sup>lt;sup>1</sup>Construction workers during pay periods including 12th of March, May, August, and November.

### Payroll by State: 1987

July to Se	ptember	October to E	December											Location
Construction workers1	Hours worked (thousands)	Construction workers <sup>1</sup>	Hours worked (thousands)			Relative s	tandard er	Tor of estin	nate (perce	nt) for col	umn—			of establish- ment
н	1	J	К	В	С	D	Е	F	G	н	1	J	К	
164 936	64 546	142 139	54 923	1	1	1	1	1	1	1	1	1	1	U.S.
2 424 335 2 488 663 19 659	927 114 992 255 7 472	1 731 249 2 453 587 18 883	674 120 872 238 6 866	8 12 6 13 2	9 12 7 15 3	8 19 7 14 2	9 5 10 20 3	9 19 6 11 2	10 22 8 17 3	12 14 6 16 2	12 17 8 15 3	9 20 10 13 3	9 23 9 14 3	AL AK AZ AR CA
2 130 3 341 457 219 9 737	782 1 359 143 69 3 875	1 920 2 629 388 226 9 261	710 1 044 130 74 3 609	6 5 9 20 3	7 6 22 (W) 4	7 6 11 13 3	8 7 23 (W) 4	7 6 9 17 4	8 6 23 (W) 4	9 5 9 24 4	8 7 21 (W) 4	7 5 9 27 4	8 7 23 (W) 5	CO CT DE DC FL
3 943 1 135 212 7 866 3 151	1 511 438 52 3 065 1 272	3 478 1 099 162 6 801 2 619	1 330 421 *51 2 671 1 077	6 8 19 3 5	6 9 22 4 7	6 8 14 3 5	6 9 24 4 8	6 7 20 4 5	7 8 26 4 7	6 8 24 4 5	6 9 32 5 7	6 10 23 3 5	7 12 41 4 7	GA HI ID IL IN
1 105 1 389 1 766 2 730 1 452	404 526 736 1 133 523	846 980 1 520 2 666 968	271 399 574 1 100 431	9 10 7 6 14	14 11 11 7 17	11 10 10 6 13	20 13 14 8 17	10 14 8 8 14	14 12 13 8 18	9 12 7 6 16	15 12 11 7 20	9 10 6 7 15	11 11 10 10 19	IA KS KY LA ME
4 616 5 524 5 692 2 665 898	1 970 2 089 2 382 1 116 383	4 362 4 078 4 635 2 217 650	1 814 1 603 1 933 931 255	4 4 4 5 10	6 5 7 6 16	4 4 5 7 12	5 5 7 10 18	4 4 5 6 11	6 5 6 6 17	5 5 5 6 18	7 5 7 8 28	5 4 5 6 12	7 5 8 8 18	MD MA MI MN MS
4 657 112 929 623 1 233	1 788 33 414 216 444	3 913 110 648 710 951	1 424 26 285 255 354	5 20 8 13 10	25 10 17	5 27 9 13 10	6 37 9 20 13	5 17 7 14 10	6 19 11 18 12	6 19 10 12 12	7 28 12 17 13	6 26 10 14 10	6 33 11 19 13	MO MT NE NV NH
5 191 724 11 942 4 891 498	2 001 261 4 572 2 050 163	4 219 796 9 954 4 527 310	1 633 247 3 767 1 833 90	2	16 4 8	5 15 3 6 26	5 19 4 7 20	4 15 3 6 19	4 18 4 8 15	4 17 3 7 15	5 20 4 9 19	4 17 3 6 19	5 16 4 10 20	NM NY NC
6 863 987 1 801 7 918 963	2 580 352 665 3 206 392	5 394 861 1 457 6 662 724	2 094 306 534 2 528 297	12	13 12 4	5 13 10 4 11	6 15 11 4 12	10	5 14 11 4 10	4 13 13 3 12	5 15 14 4 12	4 14 12 3 13	5 14 15 4 12	OK OR PA PA
2 590 276 2 647 10 609 762	1 017 96 1 021 4 399 270	2 310 188 2 180 9 506 574	865 87 856 3 851 218		12 15 6 4 10	6 4	12 18 6 4 12	6 3	12 15 6 4 12	8 17 7 3 13	13 14 6 4 11	25	13 29 8 2	SC SD TN TX UT
669 5 921 3 021 303 3 057 129		549 5 239 2 289 266 2 280 92	212 2 018 908 72 910 32	16	5 9	18 5 7 25 7 26	22 6 10 39 9 25	5 7 17 10	8	16 4 7 12 9 23	24 5 9 32 7 26	7 16 7	20 10 26 14	B VT VA VA VWA WV WV WV

# Table 10. Value of Construction Work for Establishments With Payroll by Location of Construction Work: 1987 and 1982

		Construction	1987 work done by	Construction	work done by	Percent		Relative standard		
Location of construction work	Value of	establishmer this	nts located in State		stablishments not located in this State		change 1987	error (pe	of estimates	nate or
	Value of construction work done in this State <sup>1</sup>	Number	Value of construction work	Number	Value of construction work	construction receipts for work done in this State <sup>1</sup>	(col A) to 1982 (col F)	CC	olumn—	
	А	В	С	D	E	F	G	Α	С	E
United States	7 953 323	29 594	7 242 040	5 966	711 282	4 652 155	71.0	1	1	3
Alabama Alaska Arizona Arkansas California	90 792	332	73 846	117	16 946	57 296	58.5	7	8	14
	23 979	66	20 807	15	3 172	19 766	21.3	11	13	22
	105 537	499	95 861	98	9 675	52 051	102.8	4	4	17
	42 752	133	35 296	43	7 455	22 329	91.5	17	20	10
	1 136 578	3 635	1 122 443	92	14 135	567 798	100.2	2	2	15
Colorado Connecticut Delaware District of Columbia Florida	102 953	537	97 980	54	4 973	86 642	18.8	7	7	14
	180 211	669	167 329	156	12 882	72 498	148.6	5	5	6
	34 723	93	24 943	133	9 779	17 179	102.1	15	21	9
	50 091	*15	14 511	228	35 580	24 450	104.9	8	17	10
	415 140	1 809	377 476	204	37 664	245 694	69.0	3	3	4
Georgia Hawaii Idaho Illinois	198 111 91 242 7 439 417 688 145 666	539 149 84 1 102 583	174 978 83 159 6 685 392 610 127 890	214 13 32 260 145	23 132 8 082 754 25 078 17 775	92 848 54 374 9 532 190 888 99 028	113.4 67.8 -22.0 118.8 47.1	4 5 18 3 4	4 6 20 3 5	14 1 22 4 9
lowa Kansas Kentucky Louisiana Maine	44 835	252	38 178	105	6 657	38 692	15.9	8	10	7
	61 878	275	44 466	94	17 412	38 126	62.3	7	8	16
	69 991	290	60 911	114	9 079	50 854	37.6	10	11	5
	145 012	324	117 517	97	27 495	142 501	1.8	7	8	4
	40 432	243	37 326	34	3 106	20 644	95.9	13	14	21
Maryland Massachusetts Michigan Minnesota Mississippi	215 476	691	181 357	219	34 118	93 082	131.5	6	7	12
	274 492	971	257 395	182	17 096	130 329	110.6	4	4	15
	303 461	829	292 004	96	11 457	110 218	175.3	3	4	8
	134 020	411	127 591	92	6 429	63 301	111.7	5	5	4
	32 210	122	25 877	68	6 332	30 624	5.2	10	13	6
Missouri	177 415	662	168 549	121	8 866	97 970	81.1	4	4	15
	6 890	86	4 994	16	1 896	10 030	-31.3	17	21	31
	36 286	210	30 285	109	6 001	20 546	76.6	9	8	34
	36 709	105	33 600	48	3 109	34 644	6.0	12	13	40
	43 191	244	39 441	66	3 750	29 399	46.9	12	13	31
New Jersey	281 748	1 254	243 636	265	38 112	128 904	118.6	4	4	9
	32 421	176	29 864	50	2 556	27 010	20.0	13	14	14
	667 947	2 161	632 356	241	35 591	388 738	71.8	3	3	11
	170 999	971	155 596	136	15 402	78 381	118.2	4	5	14
	14 583	103	11 282	37	3 301	8 475	72.1	25	32	3
Ohio Oklahoma Oregon Pennsylvania Rhode Island	298 031	1 261	284 045	255	13 985	174 807	70.5	4	4	12
	40 372	252	37 160	54	3 212	62 931	-35.8	15	17	4
	72 613	398	65 430	88	7 183	35 634	103.8	11	12	20
	335 947	1 429	316 552	199	19 395	228 931	46.7	3	3	27
	41 566	242	36 706	110	4 860	15 298	171.7	6	6	9
South Carolina	109 559	480	90 613	205	18 945	49 634	120.7	8	9	16
	8 072	77	6 973	41	1 098	5 094	58.5	14	16	22
	104 976	391	86 575	187	18 401	69 566	50.9	6	6	16
	458 341	1 667	430 121	102	28 219	523 558	-12.5	2	3	9
	32 542	198	27 895	57	4 646	20 055	62.3	8	9	10
Vermont	23 577	115	16 925	22	6 652	7 275	224.1	14	14	34
	293 278	1 064	222 784	356	70 494	115 384	154.2	6	6	16
	155 415	607	146 527	65	8 887	78 241	98.6	5	5	12
	22 755	99	9 343	93	13 411	23 817	-4.5	10	17	12
	114 686	628	110 974	92	3 712	77 471	48.0	5	5	8
	8 669	40	5 356	25	3 313	9 596	-9.7	15	21	16

<sup>&</sup>lt;sup>1</sup>In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

# Table 11. Dollar Value of Business Done for Establishments With Payroll by Kind of Business Activity: 1987 and 1982

[Thousand dollars. Detail may not add to total due to rounding. Based on their primary business activity or combination of activities, establishments were classified into this specific industry. These establishments, however, may also be engaged in other kinds of business activities. For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Primary and other kinds of business activities	Dollar value of	business done1	Relative standard error of estimate (percent)		
	1987	1982	1987	1982	
All kinds of business	8 027 973	4 688 082	1	1	
Painting construction  Bridge painting contractor  Painting contractor  Ship painting contractor  Traffic lane painting contractor  Paper hanging contractor  Drywall contractor  Carpentry contractor  Carpentry contractor	6 760 424 156 596 6 362 909 69 912 171 005	3 832 598 (NA) (NA) (NA) (S)	1 10 1 6	(NA) (NA) (NA)	
Paper hanging contractor	723 624 45 480 17 286 204 424	366 385 84 531 24 569 (S)	2 5 14 8	(S)	
Other construction activities	22 837 74 291 179 607	15 020 (S) (S)	11 6 6	7 (S) (S)	

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 12. Selected Industry Ratios for Establishments With Payroll: 1987 and 1982

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

Selected statistics			Relative standard error of estimate
	1987	1982	(percent) for 1987
AVERAGE PER ESTABLISHMENT			
Number of employees**	5.7 4.9 .8 99.7 79.9 19.8	5.5 4.9 (NA) 75.7 64.1 11.6	1 1 1 1 1
Dollar value of business done	268.8 266.3 60.4 17.0 4.1 4.9 29.3	189.2 187.7 43.4 10.2 2.6 3.6 28.9	1 1 1 3 2 4 2
AVERAGE PER EMPLOYEE			
Payroll, all employees	17.5 47.2 33.6	13.8 34.4 24.7	(W) 1 1
AVERAGE PER CONSTRUCTION WORKER			
Payroll, construction workers	16.4 54.7 1 537.7	13.1 38.3 1 414.1	(W) 1 1
AVERAGE PER OTHER EMPLOYEE			
Payroll, other employees\$1,000	24.1	(NA)	1
AVERAGE PER DOLLAR VALUE OF CONSTRUCTION WORK <sup>1</sup>			
Payroll, all employees	.375 .227 .064 .016	.403 .231 .054 .014	1 1 2 2

In earlier censuses, construction receipts only were collected. In 1987, the value of construction work was collected to better measure actual construction activity done during the year.

### Table 13. Selected Industry Ratios for Establishments With Payroll by State: 1987

[For meaning of abbreviations and symbols, see introductory text. For explanation of terms, see appendixes]

					Average per dollar of value of construction work			work
Location of establishment	Average number of employees** per estab- lishment	Payroll per employee (\$1,000)	Construction worker hours per construction worker	Value of construction work per construction worker (\$1,000)	Payroll, all employees	Cost of materials, components, supplies, and fuels	Cost of construction work sub-contracted to others	Rental cost for machinery, equipment, and buildings
United States	5.7	17.5	1 537.7	54.7	.375	.227	.064	.016
Alabama Alaska Arizona Arkansas California	6.4 4.0 5.4 5.4 5.8	15.1 25.3 14.2 14.2 19.5	1 549.8 1 552.2 1 576.6 1 520.3 1 469.9	52.1 90.5 43.4 59.9 62.1	.334 .320 .384 .285	.268 .203 .260 .216 .223	.061 .082 .033 *.081 .051	.020 .013 .017 .012 .018
Colorado Connecticut Delaware District of Columbia Florida	4.3	15.5	1 462.1	51.9	.360	.233	.081	.015
	5.1	19.5	1 582.6	62.0	.377	.215	.097	.011
	4.9	20.7	1 282.2	62.9	.377	(D)	.062	.004
	*17.9	23.6	1 330.4	76.9	.363	(D)	.046	.001
	5.9	13.9	1 551.0	43.4	.373	.255	.070	.017
Georgia Hawaii Idaho Illinois Indiana	7.7	17.1	1 519.6	50.1	.386	.238	.065	.012
	8.7	24.0	1 530.2	80.9	.373	(D)	.047	.015
	2.7	13.7	1 067.0	42.0	.376	(D)	*.065	*.019
	7.2	21.5	1 538.2	62.6	.401	.200	.052	.014
	5.4	17.4	1 604.7	51.0	.398	.220	.042	.014
lowa	4.4	14.9	1 308.4	50.0	.347	(D)	.030	.007
Kansas	4.6	15.3	1 557.3	47.6	.365	.262	.034	.010
Kentucky	5.9	16.4	1 578.9	52.1	.359	.212	.056	.015
Louisiana	9.4	15.5	1 557.8	48.1	.368	.212	.084	.022
Maine	5.0	13.7	1 619.7	36.8	.426	.221	.029	*.016
Maryland	7.0	17.2	1 657.1	58.8	.345	.233	.107	.018
	5.3	18.1	1 519.3	59.6	.357	.201	.056	.013
	6.8	20.4	1 646.2	62.8	.378	.237	.110	.014
	6.5	21.2	1 597.8	62.2	.398	.232	.063	.012
	6.3	13.5	1 577.2	42.6	.360	.230	.085	.010
Missouri	7.0	18.6	1 477.1	50.9	.429	.214	.033	.011
	1.7	12.2	1 043.5	56.2	.285	(D)	.054	.007
	4.1	15.5	1 727.2	47.0	.375	.236	.057	.018
	6.7	17.9	1 466.5	54.5	.369	(D)	.089	.021
	4.7	14.4	1 453.1	42.8	.391	(D)	.018	.006
New Jersey	4.1	19.5	1 529.3	62.9	.365	.219	.074	.014
	4.6	14.0	1 449.9	44.9	.359	.302	.043	*.025
	5.6	20.1	1 529.4	65.8	.362	.220	.068	.012
	5.2	13.4	1 581.0	38.8	.403	.265	.063	.013
	4.0	15.3	1 195.0	42.1	.416	.268	.024	.012
OhioOklahomaOregonPennsylvaniaRhode Island	5.2	18.0	1 545.4	54.3	.389	.220	.058	.016
	3.9	16.8	1 384.7	50.0	.382	.225	.043	.012
	4.0	14.5	1 459.2	50.5	.331	.232	.024	.018
	5.5	18.8	1 553.4	58.4	.377	.203	.054	.017
	3.6	16.6	1 637.1	53.6	.383	.187	.048	.012
South Carolina	5.7	11.6	1 532.8	39.6	.338	.255	.110	.014
	3.2	12.2	1 525.3	47.8	.313	.284	.031	.004
	6.6	15.9	1 518.8	45.6	.405	.285	.060	.013
	7.1	16.4	1 599.3	47.5	.398	.236	.082	.024
	3.8	14.1	1 339.1	49.5	.338	.304	.042	.025
Vermont Virginia Washington Wast Virginia Wisconsin Wyoming	5.4	12.2	1 578.1	34.5	.408	.246	.050	.006
	5.8	15.1	1 569.0	47.2	.378	.236	.075	.013
	5.0	18.2	1 550.9	63.3	.351	.223	.058	.019
	2.9	15.4	1 375.0	58.9	.305	.193	*.027	*.028
	4.5	16.0	1 473.7	52.6	.370	.223	.040	.018
	3.0	18.0	1 542.6	58.0	.393	.246	.023	*.009



# APPENDIX A. Explanation of Terms

Construction—Is composed of three broad categories:

- New construction—Includes the complete, original erection of structures and essential service facilities and the initial installation of integral equipment such as elevators, and plumbing, heating, and air-conditioning supplies and equipment.
- 2. Additions, alterations or reconstruction—Includes construction activity making structural changes to existing facilities. Generally, this type of activity is considered a capital investment in the property.
- 3. **Maintenance and repair**—Includes construction done for the purpose of upkeep of property rather than additional investment in the property.

Examples of the general distinction between maintenance and repair and reconstruction are provided here: roof repairs, including the replacement of shingles, gutters, etc., are classified under maintenance and repairs. A complete reroofing, however, is classified as reconstruction.

Number of establishments in business during year—Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included.

Proprietors and working partners—These data were not collected on the census report forms. The data shown are based on crediting each sole proprietorship establishment with one active proprietor and each partnership establishment with two working partners.

All employees—Comprise all full-time and part-time employees on the payrolls of construction establishments, who worked or received pay for any part of the pay period including the 12th of March, May, August, and November. Included are all persons on paid sick leave, paid holidays, and paid vacations during these pay periods. Officers of corporations are included, but proprietors and partners of unincorporated firms are not.

All employees is the sum of all employees during the pay periods including the 12th of March, May, August, and November, divided by 4.

Construction workers—Includes all workers up through the working foreman level directly engaged in construction operations, such as painters, carpenters, plumbers, and electricians. Included are journeymen, mechanics, apprentices, laborers, truck drivers and helpers, equipment operators, and on-site record keepers and security guards. Supervisory employees above the working foreman level are excluded from this category but are included in the "other employees" category.

Other employees—Includes employees in executive, purchasing, accounting, personnel, professional, technical activities, and routine office functions. Also included are supervisory employees above the working foreman level.

Construction worker hours—Includes the total number of hours worked by construction workers. Construction worker hours were collected for each of the four quarters of 1987.

Payroll—Includes the gross earnings paid in the calendar year 1987 to all employees on the payroll of construction establishments. It includes all forms of compensation such as salaries, wages, commissions, dismissal pay, bonuses, vacation and sick leave pay, prior to such deductions as employees' Social Security contributions, withholding taxes, group insurance, union dues, and savings bonds. The total includes salaries of officers of these establishments, if a corporation, but excludes payments to the proprietor or partners, if an unincorporated concern.

Employer costs for fringe benefits (supplemental labor costs)—Represents expenditures made by the employer during 1987 for legally required and voluntary fringe benefit programs for employees.

**Legally required contributions**—Include Social Security contributions, unemployment compensation, workman's compensation, and State temporary disability payments.

Voluntary payments—Include life insurance premiums, pension plans, insurance premiums on hospital and medical plans, welfare plans, and union negotiated benefits.

Dollar value of business done comprises the following detail:

Value of construction work done—Includes all value of construction work done during 1987 for construction work performed by general contractors, special trades contractors, subcontractors, and land development and improvement work. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Builders were instructed to include the value of buildings and other structures built or being built for sale in 1987 but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; and electrical and wiring supplies, elevators or escalators, etc., were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment which are not an integral part of a structure.

Land receipts—Includes receipts from the sale of land, whether held for sale or sold in connection with the sale of houses and other structures. It excludes the value of any improvements made to the land prior to the sale. (That value was to be included in the value of construction work done.)

Other business receipts—Includes business receipts not reported as value of construction work done or land receipts. The item includes business receipts from retail and wholesale trade, rental of equipment, manufacturing, transportation, legal service, insurance, finance, rental of property and other real estate operations, and other nonconstruction activities. Receipts for separately definable architectural and engineering work for others are also included here.

Excluded was the value of construction work done and receipts from other business operations in foreign countries and non-operating income such as interest and dividends.

Net value of construction work—Derived for each establishment by subtracting the costs for construction work subcontracted to others from the value of construction work done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Value added—Derived for each establishment, value added is equal to dollar value of business done, less costs for construction work subcontracted to others, and costs for materials, components, supplies and fuels. For SIC 6552 and SIC 1531, for which land receipts are significant, land receipts are also subtracted from dollar value of business done. (For a further explanation see "Duplication in Value of Construction Work" section in the Introduction.)

Selected costs—Represents the costs for materials, components, and supplies; costs for construction work subcontracted to others; and costs for selected power, fuels, and lubricants. Capital expenditures and rental costs for machinery, equipment, and structures are shown elsewhere.

Costs for materials, components, and supplies include:

- total costs to reporting establishments during 1987 for the purchase of all materials, components, and supplies, except fuels. (Supplies include expendable tools which are charged to current accounts.)
- freight and other direct charges should represent only amount paid after discounts, and the value of materials, components, and supplies obtained from other establishments of the respondent's company.
- costs for materials, components, and supplies used by the reporting establishments in the construction or reconstruction of buildings/structures for themselves which are chargeable to their fixed assets accounts, are included in this item as are costs for materials bought and resold to others.
- costs made for direct purchases of materials, components, and supplies even though the purchases were subsequently provided to subcontractors for their use.

#### Excluded from this item are:

- industrial and other specialized machinery and equipment, such as printing presses; computer systems;
   etc., which are not an integral part of a structure
- materials furnished to contractors by the owners of projects.

Costs for construction work subcontracted to others include:

all costs during 1987 for construction work subcontracted out to other construction contractors.

### Excluded from this item are:

- The costs to the reporting establishment for its purchases of materials, components, and supplies, provided to a subcontractor for his use. Such costs are reported under a separate category, "costs for materials, components, and supplies."
- costs for the rental of machinery or equipment.

Costs for selected power, fuels, and lubricants include:

- costs for fuels, lubricants, and electric energy purchased during the year from other companies, or received from other establishments of the company.
- costs for natural and manufactured gas, fuel oil, coal and coke products, etc.

Rental costs for machinery, equipment, and buildings—Includes all costs during 1987 for renting or leasing construction machinery and equipment, transportation equipment, production equipment, office equipment, furniture and fixtures, scaffolding, office space, and buildings. It excludes costs for the rental of land. It also excludes costs under agreements which, in effect, are conditional sales contracts such as capital leases. Such costs are included in "capital expenditures."

Selected purchased services—Includes all costs during 1987 for communication services purchased from other companies or from other establishments of the company. It also includes the cost of all repairs made to structures and equipment by outside companies, or from other establishments of the same company. It includes only the cost of that repair necessary to maintain property and equipment. It excludes the cost of improvements that increase the value of property, or the cost of adapting it for another use. Such costs are included in "capital expenditures".

Assets and depreciation—Refers to the original cost of all fixed tangible assets such as buildings and other structures (offices, shops, etc.); stationary machinery (generators, shop equipment, etc.); mobile machinery (tractors, trucks, etc.); and other equipment (office furniture and fixtures, etc.). Not included are such items as current assets, depletable assets, intangible assets, and nondepreciable assets.

Data on assets and depreciation were collected separately for: (1) buildings and other structures, additions, and related facilities; and, (2) machinery and equipment.

Respondents were also asked to report capitalized expenditures, depreciation charges, and the gross value of assets sold, retired, scrapped, destroyed, etc., during 1987.

Capital expenditures—Refers to all costs actually incurred during 1987 which were or would be chargeable to the fixed assets accounts of the reporting establishments and which were of the type for which depreciation accounts are ordinarily maintained. These expenditures cover the acquisition, the construction, and the major alteration of the reporting establishment's own buildings and other structures, whether purchased, constructed under contract, or constructed by the reporting establishment's own forces; and the acquisition of machinery and equipment.

If leasing arrangements met the criteria set down by the Financial Accounting Standards Board (FASB) for a capital lease, respondents were instructed to report the original cost or market value of that equipment or building as a fixed asset and capital expenditure if acquired during 1987.

If capital expenditures were not recorded directly at the establishment level but handled centrally at the company or division level, respondents were requested to report appropriate estimates for the individual establishments.

**Inventories**—Includes all of the materials and supplies that are owned regardless of where they are held. Excludes materials which are owned by others, but held by the reporting establishment.

Builders who built on their own account for sale were requested to report work in progress and finished units not sold for buildings and other structures built for sale. Inventories of multi-establishment companies were instructed to be reported by the establishment that is responsible for the inventories even if these inventories were held at a separate location.

Ownership of construction projects—This item shows the distribution of the value of construction work done by ownership of the project, that is, Government owned or privately owned. This classification relates to the ownership of the projects or work undertaken during the construction phase. Government owned projects are shown separately for Federal, and State and local governments.

Value of construction work subcontracted in from others—Includes the value of construction work during 1987 for work done by reporting establishments for other construction contractors or builders. Establishments were asked to report the approximate percent of total value of construction work accounted for by such work, and the percentages reported were applied to the reported value of construction work to develop a value for this item.

Types of construction—This item provides data by the types of buildings, structures, or other facilities being constructed or worked on by construction establishments in 1987. Respondents were instructed that each building, structure, or other facility should be classified in terms of its function. For example, a restaurant building was to be classified in the restaurant category whether it was designed as a commercial restaurant building or an auxiliary unit of an educational institution. If respondents worked on more than one type of building or structure in a multibuilding complex, they were instructed to report separately for each building or type of structure. If they worked on a building that had more than one purpose, i.e, office and residential, or commercial, they were to classify the building by major purpose.

In addition all respondents were requested to report the percentage of the value of construction work done for new construction, additions, alterations, or reconstruction, and maintenance and repair work for each of these types. See the definition of "Construction" for the meanings of these terms.

Building construction:

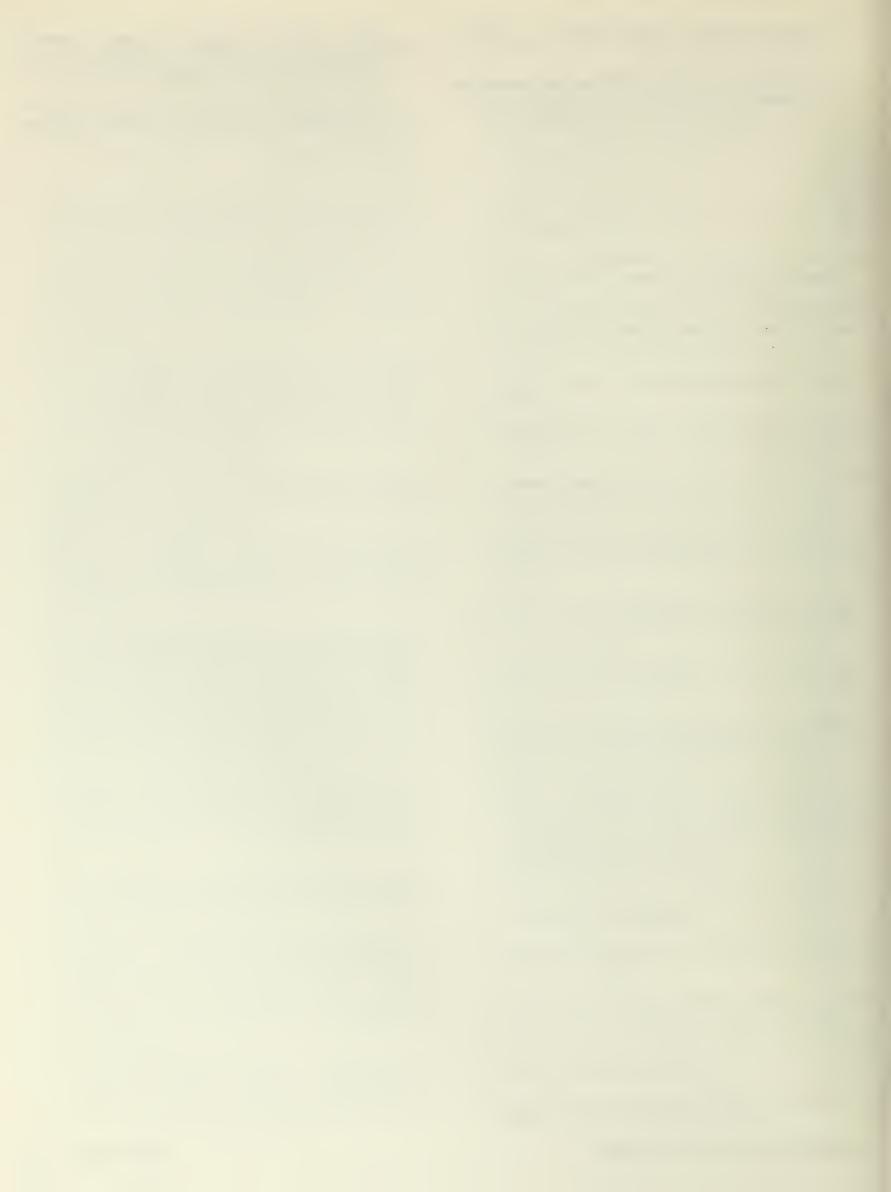
- Single-family houses, detached—Includes all residential buildings constructed for one family use.
- Single-family houses, attached (include town-houses)—Includes all residential buildings with two or more living quarters side by side, completely independent of one another, and separated by an unbroken wall from ground to roof.
- Apartment buildings with two or more apartments—Includes high-rise, low-rise, or any structures containing two or more housing units (excluding attached single-family houses and townhouses described above).
- Hotels and motels—Includes hotels, motels, and tourist cabins intended for transient accommodations.

- Other residential buildings—Includes dormitories, fraternity and sorority houses, nurses homes, and other nonhousekeeping residential structures.
- Office buildings—Includes all buildings which are used primarily for office space or for government administrative offices. Also included are banks or financial buildings which are three stories or more.
- Other commercial buildings, such as stores, restaurants, and automobile service stations— Includes all buildings which are intended for use primarily in the wholesale, retail, and service trades. For example, shopping centers, department stores, drug stores, restaurants, public garages, auto service stations, and one or two story bank or financial institutions.
- Industrial buildings—Includes all industrial buildings and plants which are used to house production and assembly activities. Heavy industrial facilities such as blast furnaces, petroleum refineries, chemical complexes, etc., are not included in this category, but under nonbuilding construction.
- Warehouses—Includes commercial warehouses, cold storage plants, grain elevators, mini-warehouses, and other such storage buildings.
- Religious buildings—Includes all buildings which are intended for religious services or functions, such as churches, synagogues, convents, monasteries, and seminaries.
- Educational buildings—Includes all buildings which are used directly in administrative and instructional activities, such as colleges, universities, elementary and secondary schools, correspondence, commercial, and trade schools. Libraries, museums, and art galleries, as well as laboratories which are not a part of a manufacturing establishment, are also included.
- Hospitals and institutional buildings—Includes all buildings which are intended to provide hospital and institutional care, such as clinics, infirmaries, sanitariums, nursing homes, homes for the aged, and orphanages.
- Farm buildings, nonresidential—Includes nonresidential farm buildings such as barns, poultry houses, implement sheds, and farm silos.
- Amusement, social, and recreational buildings— Includes buildings which are used primarily for entertainment, social and recreational activities, such as sports arenas, theaters, music halls, golf and country club buildings, skating rinks, bowling alleys, and indoor swimming pools.
- Other nonresidential buildings—Includes nonresidential buildings which are not classified elsewhere, such as fire stations, prisons, civic centers, bus and air passenger terminals and hangars.

Nonbuilding construction:

- Highways, streets and related work, such as installation of guardrails, highway signs, etc.—Includes streets, roads, alleys, sidewalks, curbs and gutters, culverts, right-of-way drainage, erosion control and lighting. Also includes earthwork protective structures when used in connection with road improvements.
- Outdoor swimming pools—Includes wading pools and reflecting pools.
- Recreational facilities—Includes athletic fields, golf courses, outdoor tennis courts, trails, and camps.
- Bridges and elevated highways—Includes viaducts and overpasses; roads, highways, railroads, and causeways built on structural supports.
- Tunnels—Includes highway, pedestrian, and railroad tunnels.
- Railroad construction—Includes the construction of railroad beds, tracks, freight yards, and signal towers.
- Subway construction—Includes urban mass transit subway systems above or below ground.
- Dam and reservoir construction—Includes hydroelectric, water supply, and flood control dams and reservoirs.
- Marine construction—Includes dredging, underwater rock removal, breakwaters, navigational channels, jetties, and locks.
- Harbor and port facilities—Includes docks, piers, and wharves.
- Conservation and development construction— Includes land reclamation, irrigation projects, drainage canals, levees, and flood control projects.
- Power and communication transmission lines, towers, and related facilities—Includes electric power lines, telephone and telegraph lines, fiber optic cables, cable television lines, television and radio towers, electric light and power facilities.
- Power plants, except nuclear—includes electric and steam generating plants.
- Power plants, nuclear—Includes atomic energy plants, and nuclear reactors.
- Sewers, sewerlines, and related facilities—Includes sanitary and storm sewers, and related facilities.
- Sewage treatment plants—Includes sewage treatment and waste disposal plants.
- Water mains and related facilities—Includes water supply systems and related facilities.

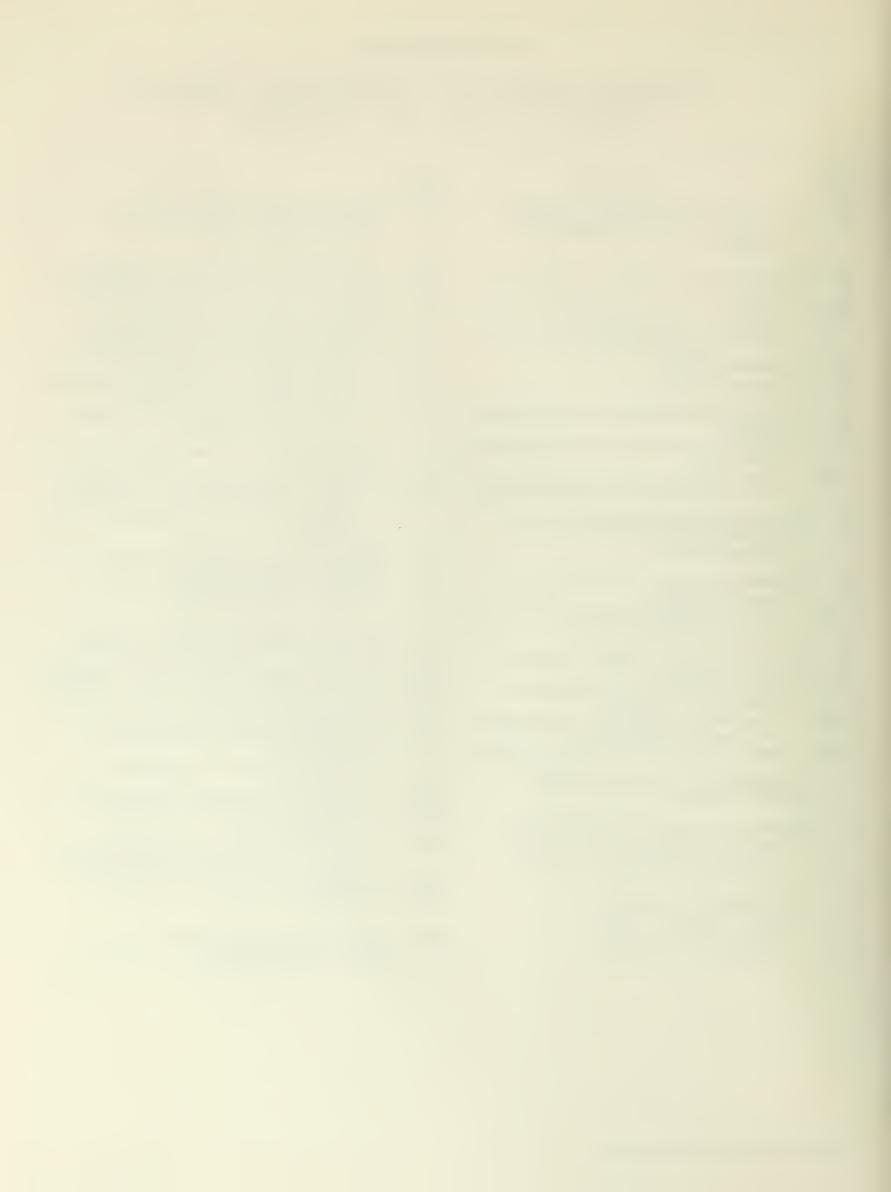
- Water treatment plants—Includes water filtration and water softening plants.
- Pipeline construction other than sewer or waterlines—Includes pipelines for the transmission of gas, petroleum products, and liquefied gases.
- Blast furnaces, petroleum refineries, chemical complexes, etc.—Includes coke ovens, and mining appurtenances such as tipples and washeries.
- Other nonbuilding construction—Includes all types of nonbuilding construction, not included elsewhere.



### APPENDIX B.

# Standard Industrial Classification Titles for Industry Groups and Industries

			,
SIC code	Industry titles	SIC code	Industry titles
15	BUILDING CONSTRUCTION—GENERAL CONTRACTORS AND OPERATIVE BUILDERS	17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS—Con.
152	General Building Contractors—Residential Buildings	<b>173</b> 1731	Electrical Work Special Trade Contractors Electrical Work Special Trade Contractors
1521 1522	General Contractors—Single-Family Houses General Contractors—Residential Buildings, Other Than Single-Family	174 1741	Masonry, Stone Work Tile Setting, and Plastering Special Trade Contractors Masonry, Stone Setting, and Other Stone Work Special Trade Contractors
<b>153</b> 1531	Operative Builders Operative Builders	1742	Work Special Trade Contractors Plastering, Drywall, Acoustical, and Insulation Work Special Trade Contractors
154	General Building Contractors—Nonresidential Buildings	1743	Terrazzo, Tile, Marble, and Mosaic Work Special Trade Contractors
1541	General Contractors—Industrial Buildings and Warehouses	175	Carpentry and Floor Work Special Trade Contractors
1542	General Contractors—Nonresidential Buildings, Other Than Industrial Buildings and Warehouses	1751 1752	Carpentry Work Special Trade Contractors Floor Laying and Other Floor Work Special
16	HEAVY CONSTRUCTION OTHER THAN BUILDING CONSTRUCTION—		Trade Contractors, Not Elsewhere Classified
	CONTRACTORS	176	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
161	Highway and Street Construction, Except Elevated Highways	1761	Roofing, Siding, and Sheet Metal Work Special Trade Contractors
1611	Highway and Street Construction Contractors, Except Elevated Highways	<b>177</b> 1771	Concrete Work Special Trade Contractors Concrete Work Special Trade Contractors
162	Heavy Construction, Except Highway and Street Construction	178	Water Well Drilling Special Trade Contractors
1622	Bridge, Tunnel, and Elevated Highway Construction Contractors	1781	Water Well Drilling Special Trade Contractors
1623	Water, Sewer, Pipeline, and Communications and Powerline Construction	<b>179</b> 1791	Miscellaneous Special Trade Contractors Structural Steel Erection Special Trade Contractors
1629	Heavy Construction, Not Elsewhere Classified	1793	Glass and Glazing Work Special Trade Contractors
17	CONSTRUCTION—SPECIAL TRADE CONTRACTORS	1794 1795	Excavation Work Special Trade Contractors Wrecking and Demolition Work Special
171	Plumbing, Heating, and Air-Conditioning Special Trade Contractors	1796	Trade Contractors Installation or Erection of Building Equipment,
1711	Plumbing, Heating, and Air-Conditioning Special Trade Contractors		Special Trade Contractors, Not Elsewhere Classified
172	Painting and Paper Hanging Special Trade Contractors	1799	Special Trade Contractors, Not Elsewhere Classified
1721	Painting and Paper Hanging Special Trade Contractors	6552	LAND SUBDIVIDERS AND DEVELOPERS, EXCEPT CEMETERIES



# APPENDIX C. Geographic Divisions and States

### **NEW ENGLAND STATES**

Connecticut Maine

Massachusetts New Hampshire Rhode Island Vermont

### MIDDLE ATLANTIC STATES

New Jersey New York Pennsylvania

### **EAST NORTH CENTRAL STATES**

Illinois Indiana Michigan Ohio Wisconsin

### **WEST NORTH CENTRAL STATES**

Iowa Kansas Minnesota Missouri Nebraska North Dakota South Dakota

### **SOUTH ATLANTIC STATES**

Delaware
District of Columbia
Florida
Georgia

Maryland

### SOUTH ATLANTIC STATES-Con.

North Carolina South Carolina Virginia West Virginia

### **EAST SOUTH CENTRAL STATES**

Alabama Kentucky Mississippi Tennessee

### **WEST SOUTH CENTRAL STATES**

Arkansas Louisiana Oklahoma Texas

### **MOUNTAIN STATES**

Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

### **PACIFIC STATES**

Alaska California Hawaii Oregon Washington

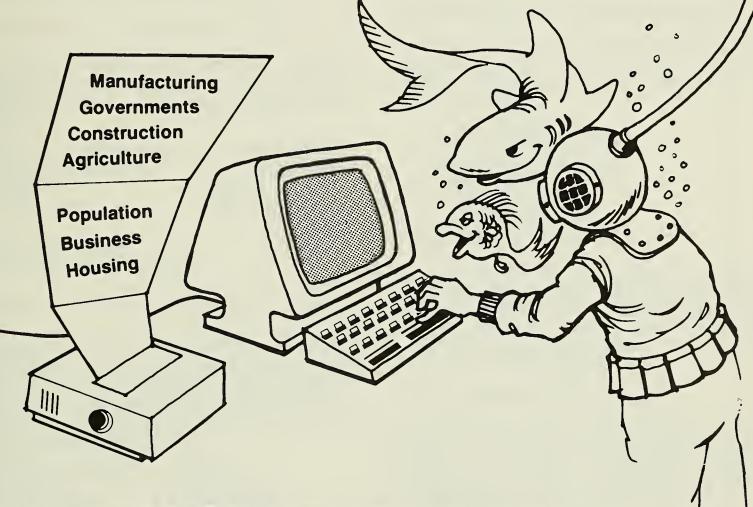


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### **PUBLICATION PROGRAM**

### 1987 CENSUS OF CONSTRUCTION INDUSTRIES

The Census of Construction Industries is taken once every 5 years. The census covers all establishments engaged in construction, including:

- Building contractors
- Heavy construction contractors
- Special trade contractors (including plumbers, carpenters, painters, electricians)
- Land developers and subdividers

Data products in the Census of Construction Industries are issued in 4 publication series and in 3 other media:

Printed reports

• CD-ROM

[C]

Computer tape

[T]

Highlights online

### **Preliminary Industry Series** (CC87-I-1(P) through CC87-I-28(P))

(Available November 1988 through May 1989) [P]

Twenty-seven separate industry reports and a United States summary report, providing national statistics for establishments with payroll. Statistics shown for 1987 include:

- Number of establishments
   Value of construction work
- Number of employees
- done, by type of struc-

Payroll

- ture
- · Hours worked
- Selected operating costs

### Final Industry Series (CC87-I-1 through CC87-I-28)

(Available June 1989 through November 1989) [P] [C] [T] [+]

Twenty-seven separate industry reports and a United States summary report, providing statistics for the Nation and individual States on establishments with payroll. These reports update figures from the preliminary industry series (employment, payroll, value of construction, etc.) and provide measures of the following:

- Capital expenditures
- Assets
- Inventories
- Depreciation
- Industry profiles
- And much more

### **Geographic Area Series** (CC87-A-1 through CC87-A-10)

(Available January 1990 through March 1990) [P] [C] [T] [+]

Nine reports on the construction industries, representing each census geographic division, and a United States summary report. Regional reports provide detailed data for States and metropolitan statistical areas.

### Subject Report—Legal Form of Organization and Type of Operation (CC87-S-1)

(Available May 1990) [P]

One report providing selected national statistics for each industry by legal form of organization and type of operation. This report includes data for establishments with and without payroll. Data in this report include-

- Employment
- Value of construction work done
- Payroll
- Selected operating costs

### OTHER ECONOMIC CENSUSES REPORTS

The Census of Construction Industries is part of the 1987 Economic Censuses. These are conducted at five-year intervals in years ending in 2 and 7 and consist of seven separate censuses:

- Census of Retail Trade
- Census of Wholesale Trade
- Census of Service Industries
- Census of Transportation
- Census of Manufactures
- Census of Mineral Industries
- Census of Construction

...plus several related programs: enterprise statistics; information on minority-owned and women-owned businesses; and the Census of Outlying Areas, including separate economic censuses of Puerto Rico and other outlying areas. The Census of Agriculture and Census of Governments are conducted separately.

### **HOW TO ORDER DATA PRODUCTS**

Order forms for the specific reports and other data products may be obtained from Data User Services Division, Customer Services (Publications), Bureau of the Census, Washington, DC 20233. If you have any questions, call Census Customer Services 1-(301)-763-4100.

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